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ABSTRACT

A comparison study used the National Adult Literacy Survey (NALS) to describe the English-language literacy skills of individuals who passed the Tests of General Educational Development (GED Tests) and of those who did not. The research explored what the GED and NALS instruments measured in common and what was measured separately. Findings indicated that higher scores on the GED Tests corresponded to higher scores on the NALS literacy assessments. Passing the GED Tests tended to distinguish between persons whose literacy skills were in the moderate range and those whose skills were more limited. The probability of passing the GED Tests rose for each increase in demonstrated level of literacy. The average literacy scores of adults who passed the GED Tests fell within the moderate range on all three literacy scales--regardless of the test taker's age, sex, race or ethnicity, country of origin, geographic region, or disability status. About 3 in 10 GED test takers reported they were currently or previously enrolled in a program other than regular school to improve their basic skills. Employed examinees had higher average quantitative literacy scores than unemployed examinees. The GED Tests and the NALS instruments both assessed skills that appeared to represent verbal comprehension and reasoning. The GED Tests seemed to tap unique dimensions of writing mechanics and mathematics, the NALS--unique dimensions of document literacy. (Appendixes include methods, definitions of variables, and 18 data tables.) (YLB)

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THE LITERACY PROFICIENCIES OF GED EXAMINEES:

RESULTS FROM THE GED-NALS COMPARISON STUDY

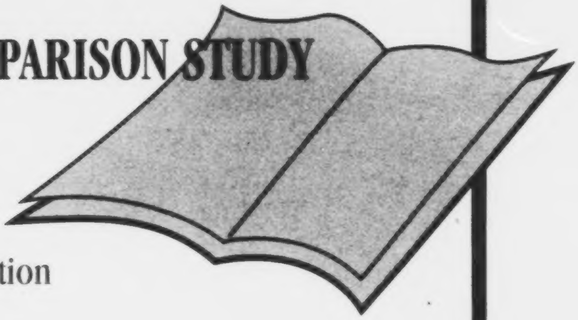

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Table of Contents

Acknowledgments v

Preface vii
  Background and Context vii
  Who Takes the GED Tests? viii
  About This Report ix

Executive Summary xi
  Key Findings xii
    The Literacy Proficiencies of GED Examinees,
      Passers, and Nonpassers xii
    Results by Demographic Group xiii
    Results by Educational Experiences and Expectations xiv
    Results by Employment Status and Work Experiences xiv
    Construct Validity of the GED Tests and the NALS Scales xv
  Implications xv
  Recommendations xvi

Introduction 1
  Overview of the GED-NALS Comparison Study 2
  Defining and Measuring Literacy 3
  The GED Tests 5
  The NALS Assessment Instruments 6
  Comparing GED and High School Graduates 7
  Research Questions Addressed 9
  A Note on Interpretations 10

Part One: The Literacy Proficiencies of GED Examinees 13
  Levels of Literacy 13
  Average Literacy Proficiencies 18
  Literacy Proficiencies and Performance on the GED Tests 25

Part Two: Results for GED Examinees in Various Demographic Groups 29
Age 29
Race/Ethnicity 31
Country of Birth 34
Sex 36
Geographic Region 38
Disability Status 40

Part Three: The Educational Experiences and Expectations of GED Examinees 45
Reasons for Leaving School 45
Educational Expectations 48
Participation in a Basic Skills Program 50
Methods of Study for the GED Tests 53

Part Four: The Employment Experiences and Economic Status of GED Examinees 59
Labor Force Participation 59
Number of Weeks Worked 62
Number of Years of Full-Time Employment 64
Weekly Wages 66
Annual Household Income 69

Part Five: Construct Validity of the GED Tests and the NALS Scales 73
Correlations among the GED Tests 75
Correlations among the NALS Scales 77
Higher Order Relationships between the GED Tests and the NALS Scales 78
Error Variance and Score Reliability for the GED Tests and the NALS Scales 81
Summary 82

Part Six: Findings, Implications, and Recommendations 85

Appendix A: Methods 91
Appendix B: Definitions of Variables 103
Appendix C: Tables 109

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Preface

Let us . . . cherish, therefore,
the means of knowledge.
Let us dare to read, think,
speak, and write. —*John Adams*

The GED-NALS Comparison Study was undertaken to increase awareness and understanding of the literacy and educational skills associated with earning the GED credential. The study brings together two large-scale assessment instruments, each of which provides important information about adults: the National Adult Literacy Survey (NALS) assessments, which measure the literacy proficiencies of adults, and the Tests of General Educational Development (GED Tests), which measure the academic skills and knowledge associated with high school completion. By administering both the GED Tests and the NALS materials to a national sample of GED examinees, the study enables us to explore the literacy skills of adults who take the GED Tests—including those who pass the tests and those who do not—and the relationships between the two sets of assessment instruments.

We hope that this report on the study findings will address the needs of many audiences: adult educators who wish to target instruction more effectively to those who enroll in adult education classes; developers of instruction and curricula who want to improve educational programs for adults; college and university administrators seeking to recruit and retain qualified college students; employers who seek ways to verify academic skills that are valued in the workplace; and potential GED test takers who want to know more about the educational and literacy skills associated with passing the GED test battery.

Background and Context

The National Adult Literacy Survey (NALS), conducted in 1992 by Educational Testing Service (ETS) for the U.S. Department of Education, provided extensive information about the literacy skills of the general adult population in the United States (age 16 and older), including individuals with varying levels of education. The NALS study found that, in a national population of adults, literacy skills not only are strongly related to educational achievement, but also are associated with other social and economic outcomes important to public policy decision makers.

At their annual meeting in 1992, state directors of adult education and state GED administrators perceived the potential impact of this survey on the field of adult education. They recognized that the measures of literacy used in the NALS offered a useful framework for measuring the progress and performance of adults served by adult education and literacy programs. Subsequently, in 1993, the GED Testing Service of the American Council on Education joined with Educational Testing Service to launch the GED-NALS Comparison Study. The goals of this study were to examine the English-language literacy skills of a national sample of GED test takers, including passers and nonpassers, and to explore what the GED and the NALS instruments measured in common and what was separately measured by each.

Who Takes the GED Tests?

Passing the GED Tests enables individuals who leave school before completion to show that they have acquired a level of learning comparable to that of traditional high school graduates and to receive formal recognition for this learning. The five tests in the GED battery—the Tests of Writing Skills, Social Studies, Science, Interpreting Literature and the Arts, and Mathematics—measure the skills and knowledge typically acquired in a four-year program of high school education in the core content areas of U.S. high school curricula.

Individuals who take the GED Tests make up a highly diverse population comprising three broad groups of learners. In one group are adults who attained high school–level academic skills before they left school, even though they dropped out before receiving their high school diplomas. In another group are adults who continued to develop their high school–level academic skills outside of the formal or traditional school environment, either by studying on their own or by learning through life experience, on the job, in the home, or in the community. For both of these groups of GED test takers, passing the GED Tests provides a way to document academic skills and earn the high school credentials they need to address other goals, such as enrolling in college, qualifying for job training, or applying for better jobs. Receiving the GED validates their attainment of high school–level knowledge and skills and may give them the confidence they need to pursue more ambitious academic and career goals.

The third category of GED test takers consists of adult learners who still need to develop the general academic skills and knowledge associated with high school completion. Beyond the need to develop their academic skills, these adults may also need training and opportunities to learn the personal and work-related skills associated with successful participation in the labor force. For these test takers, attaining a GED credential can vary from a goal well within their grasp to one that remains a far-off dream. The factors that may influence their chances of passing the GED Tests include the level of their developed abilities, the quality and availability of educational resources, the duration and sequence of their learning opportunities, the capabilities of their teachers, the relevance of curriculum and instruction to their learning needs, and their level of comfort with taking standardized tests.

About This Report

The Executive Summary presents key findings from the GED-NALS Comparison Study and discusses implications and recommendations. The Introduction provides an overview of the study, defines literacy, describes the GED Tests and the NALS assessments, compares GED and high school graduates, and presents the research questions which guided the study.

Research findings are presented and discussed in Parts One through Six. Literacy performance results are given for GED test takers as a whole, as well as for those who passed the GED Tests and for those who did not. Results for each variable are presented in summary tables and figures, which are accompanied by discussion of the findings.

Part One describes the prose, document, and quantitative literacy proficiencies of GED test takers, passers, and nonpassers. Part Two reports literacy results by various demographic subgroups. Part Three presents literacy results in relation to educational experiences and expectations. Part Four provides literacy results by employment status and work experiences. Part Five presents construct validity evidence for the GED Tests and the NALS proficiency scales. Part Six discusses implications and recommendations.

The final section of the report includes several appendices. Appendix A describes the methods and instruments used in the study; Appendix B defines the variables reported; and Appendix C provides detailed tables on which the report's figures and tables are based.

A note about terminology: Persons who take the GED Tests are referred to variously as GED test takers, examinees, or candidates. These terms are interchangeable. Persons who pass the battery of five GED Tests are referred to as GED passers or GED graduates. These are individuals who have met their state's GED score requirements for a high school credential. To pass the GED Tests, adults must obtain scores comparable to those of the top 70 percent of a national sample of graduating high school seniors. Nonpassers are examinees who failed to meet their state's minimum score requirements for a high school credential. For more information about GED passing score requirements for various states, see Appendix A of this report or consult *The Tests of General Educational Development: Technical Manual,* 1993, GED Testing Service.

For readers who want to know more about the technical aspects of this study, a companion volume, *The Technical Report on the GED-NALS Comparison Study* contains more detailed descriptions of the GED Tests, the NALS scales, sample selection and participation, data collection, interviewer training, scoring, proficiency score estimation, scaling and statistical modeling, and construct validity analyses using item-level data from the GED Tests and NALS scales.

Executive Summary

This report presents findings from the GED-NALS Comparison Study, a research project undertaken by the GED Testing Service of the American Council on Education (ACE) and Educational Testing Service (ETS) to examine the literacy proficiencies of adults who take the Tests of General Educational Development (GED Tests). The GED Tests allow adults to demonstrate that they have acquired a level of learning comparable to that of recent high school graduates and thus to earn high school equivalency credentials. In 1993, a national sample of examinees who were taking the English-language version of the GED Tests was asked to complete the three literacy assessments used in the National Adult Literacy Survey (NALS), a project developed and conducted by ETS for the U.S. Department of Education in 1992. The NALS assessments provide estimates of prose, document, and quantitative skills along three corresponding literacy scales. Each scale is divided into five levels of proficiency, ranging from low (Level 1) to high (Level 5).

A major purpose of the GED-NALS Comparison Study was to use an external measure—the National Adult Literacy Survey scales—to describe the English-language literacy skills of individuals who passed the GED Tests and of those who did not. The use of the NALS assessments not only provides external validity evidence of the skills associated with high school completion; it also makes it possible to extend the definition of passing the GED Tests beyond interpretations based solely on the GED test performance of a recent sample of the nation's graduating high school seniors. Current GED passing standards require adults to achieve scores that are comparable to those obtained by the top 70 percent of this norm group to qualify for a high school credential.

A second purpose was to explore what the GED and NALS instruments measured in common and what was measured separately by each. Moreover, it was hoped that the study would provide guidance to adult educators, teachers, policymakers, researchers, and members of the general public who are seeking ways to improve education programs and lifelong learning opportunities for adults.

Key Findings

The Literacy Proficiencies of GED Examinees, Passers, and Nonpassers

- Higher scores on the GED Tests correspond to higher scores on the NALS literacy assessments. As expected, individuals who met their state's GED score requirements for a high school credential (referred to as "passers") displayed far stronger prose, document, and quantitative literacy skills, on average, than those who did not pass the GED Tests ("nonpassers").

- The average proficiency scores of GED passers fall within the Level 3 range, reflecting a moderate level of literacy, while those of nonpassers lie within the Level 2 range, reflecting a low level of literacy. Stated differently, passing the GED Tests tends to distinguish between persons whose literacy skills are in the moderate range, on average, and those whose skills are more limited. Thus, in addition to certifying the attainment of knowledge and skills associated with high school completion, passing the GED Tests also signifies, on average, at least moderate levels of prose, document, and quantitative literacy.

- About two in three GED passers performed in Level 3 or higher on the prose and document literacy scales. Nearly three in five performed in these levels of quantitative literacy. These findings suggest that, for most GED passers, the GED credential reflects the attainment of a level of literacy skills widely viewed as necessary for social and economic advancement and for exercising the rights and responsibilities of citizenship.

- The probability of passing the GED Tests rose for each increase in demonstrated level of literacy. For example, nine in ten examinees who demonstrated literacy skills in Level 3 passed the GED battery—a far higher rate of success than that displayed by individuals who performed in Levels 1 or 2. These findings indicate a strong relationship between literacy attainment and performance on the GED test battery. That is, passing the GED Tests is a strong predictor of at least moderate levels of literacy proficiency, and higher literacy proficiency is a strong predictor of passing the GED Tests.

Results by Demographic Group

- The average literacy scores of adults who passed the GED Tests fall within the moderate (Level 3) range on all three literacy scales. This finding generally holds true regardless of the test taker's age, sex, race or ethnicity, country of birth, geographic region, or disability status.

- Males and females, adults in different age groups, and individuals with and without disabling conditions (that is, conditions that prevented them from participating fully in everyday activities) were equally likely to pass the GED Tests.

- Some differences in performance were found among various demographic groups, however. On average, white GED examinees displayed stronger literacy skills than Hispanic examinees, who displayed stronger literacy skills than African American examinees. White and Hispanic test takers were also more likely than African American test takers to pass the GED Tests. Examinees who reported that they had vision problems displayed weaker prose and quantitative literacy skills and were less likely to pass the GED Tests than those without such impairments.

Results by Educational Experiences and Expectations

- About three in ten GED test takers reported that they were currently or previously enrolled in a program other than regular school to improve their basic skills in reading, writing, and arithmetic. On average, these individuals had lower average literacy proficiencies than those who had not enrolled in such programs. Further, examinees who reported that they prepared *most* for the GED Tests by enrolling in formal classes had lower average literacy scores than those who did not study or who took the Official GED Practice Tests. These findings suggest that individuals with limited literacy skills are more likely to seek out or be referred to basic skills programs and are more likely to enroll in formal classes to prepare for the GED Tests than those with stronger skills. Examinees with stronger skills may require little or no instruction before taking the tests.

- More than eight in ten GED examinees reported that they planned to earn educational credentials beyond the GED. Those who expected to earn bachelor's degrees displayed stronger prose and quantitative literacy proficiencies, on average, than those who anticipated earning vocational degrees and those who did not plan to pursue further credentials.

Results by Employment Status and Work Experiences

- Examinees who were currently employed either full time or part time had higher average quantitative literacy scores than those who were unemployed. There were no significant differences between the average prose or document literacy scores of employed and unemployed GED test takers. This finding suggests that quantitative literacy skills may be more strongly related to employment outcomes among GED examinees than prose and document literacy skills.

- Test takers who reported that they had worked for pay for at least 14 weeks during the previous 12 months demonstrated stronger prose and quantitative literacy skills, on average, and were more likely to pass the GED Tests than those who had not worked.

Construct Validity of the GED Tests and the NALS Scales

- The GED Tests and the NALS instruments have a considerable degree of overlap in what they measure. Both assess skills that appear to represent verbal comprehension and reasoning, or the ability to understand, analyze, interpret, and evaluate written information and apply fundamental principles and concepts.

- Despite the considerable degree of overlap, the GED Tests and the NALS instruments also measure somewhat different skills. For example, the GED Tests seem to tap unique dimensions of writing mechanics and mathematics, while the NALS scales appear to tap unique dimensions of document literacy.

Implications

Implications from this study indicate that passing the GED Tests signifies, on average, the attainment of at least a moderate (Level 3) level of prose, document, and quantitative literacy. This finding generally holds true for all passers, regardless of age, sex, race or ethnicity, country of birth, geographic region, or disability status. The attainment of at least a moderate level of literacy skills increasingly is viewed as necessary for social and economic advancement and for exercising the rights and responsibilities of citizenship.

The study also found disparities in the levels of literacy skills among adults who take the GED Tests, suggesting the need for different kinds of programs and services for adults with different levels of skills. Many adults who demonstrate lower levels of literacy skills seek formal adult education classes—such as GED classes—in order to develop the skills needed to pass the GED Tests. Adults with lower levels of skills may require longer periods of study to prepare for the GED Tests. On the other hand, adults who demonstrate higher levels of literacy may require little, if any, preparation before taking the GED Tests. They may be encouraged to take the GED Tests by others or referred to the tests through a screening process. Many of these more highly literate adults determine their own readiness for the tests by first taking the Official GED Practice Tests.

Construct validity findings indicated that the GED Tests and the NALS scales have a considerable amount of overlap in measuring verbal comprehension and reasoning skills. Nevertheless, each instrument measures other skills and knowledge as well. The GED Tests measure and certify the attainment of academic skills and knowledge associated with high school completion, while the NALS literacy scales measure skills needed to accomplish diverse types of tasks involving printed or written information. Because such literacy tasks are integral parts of what is taught in high school, it is not surprising that performance on the GED Tests correlates strongly with performance on the NALS measures.

Recommendations

We recommend that further studies be undertaken to explore the implications of the findings from the GED-NALS Comparison Study for policy makers involved in adult education and literacy as well as in K-12 education. One such study should identify instructional strategies that can be used to improve the academic and literacy skills of adults with lower levels of literacy who seek to take the GED Tests. Research is needed to explore ways to develop more effective programs for academic counseling, diagnosing educational needs, and increasing readiness for testing. Other areas of study should address the nature of the core set of literacy and academic skills and knowledge needed by high school graduates in the next decade.

Studies should also document the level of participation of high school and GED graduates in educational and job training programs and assess their performance in such programs. More information is needed about the long-term outcomes of receiving GED credentials in terms of further education, employment, and personal satisfaction.

Introduction

The adult population of the United States continues to grow older and more varied in racial, ethnic, and cultural composition. At the same time, the changing nature of work, emerging technologies, and global competition are creating greater needs for worker training and continuous upgrading of skills. These accelerating social and economic changes have led to increasing concern about the literacy skills of the nation's adults.

This concern is exemplified by the nation's education goal for adult literacy, which states that by the year 2000, every adult in this nation is to be literate and is to possess the knowledge and skills necessary to compete in a global economy and to exercise the rights and responsibilities of citizenship.[1] Indeed, literacy—broadly defined—may be prerequisite to the successful completion of an individual's other educational, social, and economic objectives.

High school credentials are widely viewed as necessary for getting a job and for enrolling in postsecondary education programs. Passing the Tests of General Educational Development (GED Tests) offers many adults a second chance to obtain this credential. In 1994, more than 680,000 adults completed the GED test battery in the United States and its territories; 73 percent of these individuals—or nearly half a million people—earned their high school credentials based on the GED Tests.[2] This number represents roughly one in seven of all high school diplomas awarded each year, making the GED Testing Program the largest dropout recovery program in the nation.

How literate are GED graduates? How do the literacy skills of GED passers compare with the skills of individuals with other educational credentials? To what extent are the literacy skills of GED examinees related to their educational and employment experiences? These and other questions were addressed in the GED-NALS Comparison Study.

This portion of the report summarizes the nature of the study; presents basic concepts about literacy; describes the National Adult Literacy Survey (NALS) assessments and the GED Tests; and previews the research questions addressed in the chapters that follow.

Overview of the GED-NALS Comparison Study

Early in 1992, officials from the American Council on Education and Educational Testing Service initiated plans for a joint study to examine the literacy skills of GED test takers and to compare the measurement qualities of the GED Tests and the NALS proficiency scales. That fall, the American Council on Education's General Educational Development Testing Service entered into a collaborative agreement with Educational Testing Service to conduct the GED-NALS Comparison Study.

One purpose of the GED-NALS Comparison Study was to describe the literacy skills of GED examinees as a whole and to examine the skills of those who pass the tests and of those who do not. It was expected that the study would provide useful distinctions between the literacy skills of GED passers and nonpassers, as well as expand our knowledge about the relationship between literacy, as defined by the National Adult Literacy Survey, and high school completion, as defined by passing the GED Tests. Because neither the GED nor the NALS reports results using grade-level scores, the study provides a means of interpreting scores on each measure against a valid external measure. Moreover, the study offers a way to extend the meaning of the GED credential beyond that associated with the performance of a national norm group of high school graduates.

A second purpose of this study was to examine the relationships among the five GED Tests and the three NALS literacy scales. By comparing the performance of a sample of GED examinees on both the GED Tests and the NALS scales, we hoped to learn more about the types of literacy skills measured in common by the two instruments and the types of skills that appear to be uniquely measured by each.

In 1993, researchers assessed the literacy proficiencies of a national sample of 1,570 individuals who were taking the English-language edition of the GED Tests in official GED Testing Centers across the country. After completing the GED battery, examinees were asked to perform an array of prose, document, and quantitative tasks that simulated real-life situations encountered at home, at work, and in the community. They were also asked to answer a series of questions about their educational and employment experiences and other topics. Trained GED examiners administered the assessment materials. To ensure a high rate of participation, the examiners were paid $10 for each test battery they administered; the examinees also were each paid $10.

Defining and Measuring Literacy

Although most people agree that literacy skills are important for improving individual opportunity and societal well-being, there are widely differing views as to how literacy should be defined and measured. As noted in Kirsch, et al. (1993),[3] past studies have misleadingly treated literacy as a single condition that individuals either do or do not have. Increasingly, however, literacy is being defined as a continuum of skills needed to understand, process, and use information.

The National Literacy Act of 1991 adopted the following definition of literacy:

> *an individual's ability to read, write, and speak in English and compute and solve problems at levels of proficiency necessary to function on the job and in society, to achieve one's goals, and to develop one's knowledge and potential.*

In the National Adult Literacy Survey, conducted by Educational Testing Service (ETS) in 1992 for the U.S. Department of Education, literacy was defined as "using printed and written information to function in society, to achieve one's goals, and to develop one's knowledge and potential." The multifaceted nature of literacy is captured in this definition. Literacy is not a single skill; rather, it is an ordered set of skills needed to perform diverse types of tasks involving printed or written information. Searching for a piece of information in a newspaper, looking up a departure time in a train schedule, and balancing a checkbook—each of these tasks calls for different types of literacy skills.

Based on this view of literacy, the proficiency results for the National Adult Literacy Survey were reported using three score scales, each ranging from 0 to 500: a prose literacy scale, a document literacy scale, and a quantitative literacy scale (Figure 1).

Figure 1

The National Adult Literacy Survey focused on three areas of literacy proficiency:

Prose literacy—the knowledge and skills needed to understand and use information from texts that include editorials, news stories, poems, and fiction; for example, finding a piece of information in a newspaper article, interpreting instructions from a warranty, inferring a theme from a poem, or contrasting views expressed in an editorial.

Document literacy—the knowledge and skills required to locate and use information contained in materials that include job applications, payroll forms, transportation schedules, maps, tables, and graphs; for example, locating a particular intersection on a street map, using a schedule to choose the appropriate bus, or entering information on an application form.

Quantitative literacy—the knowledge and skills required to apply arithmetic operations, either alone or sequentially, using numbers embedded in printed materials; for example, balancing a checkbook, figuring out a tip, completing an order form, or determining the amount of interest from a loan advertisement.

Source: National Adult Literacy Survey, U.S. Department of Education, National Center for Education Statistics, 1992

The NALS literacy scales were created to represent the range of literacy skills and to characterize the relative difficulty of the assessment tasks. The three scales were divided into five proficiency levels, each encompassing a variety of tasks that correspond to a range of scores. Individuals who performed in the lowest literacy level (Level 1) consistently displayed only the most limited literacy proficiencies, while those in the highest level (Level 5) consistently demonstrated the most advanced skills. The literacy levels make it possible to describe the distribution of literacy skills within the adult population as a whole and within various subgroups of this population.

The National Education Goals Panel, a bipartisan panel proposing education goals for the nation, selected the literacy scales used in the National Adult Literacy Survey as indicators of state and national progress toward meeting the national goal on adult literacy and lifelong learning.[4] For this reason, and because the scales provided detailed profiles of the literacy proficiencies of the nation's adults, the NALS scales may be seen as providing a valuable framework for evaluating the literacy skills of adults served by adult education programs.

The GED Tests

The GED Tests are designed to measure the major and lasting academic outcomes associated with a traditional four-year high school program of study. To receive a high school credential, examinees must pass a rigorous seven and one-half hour battery of tests that are based on the core content areas of high school curricula in the United States.

Examinees' scores are compared to the performance of a national sample of graduating high school seniors through national norming and equating studies conducted by the GED Testing Service.[5] To pass the tests, individuals must achieve scores that are comparable to those attained by the top 70 percent of a recent sample of the nation's graduating high school seniors. Thus, passing the GED Tests signifies the attainment of general academic knowledge and skills associated with high school completion.

The GED battery consists of a written essay, as well as multiple-choice tests of writing skills, social studies, science, interpreting literature and the arts, and mathematics. While the GED Tests were not designed specifically to measure workplace readiness, subsequent studies have indicated that many of the basic skills valued by employers are measured by the GED Tests—for example, reading, writing, and mathematics.[6] Indeed, it is reasonable to expect that the overlap between workplace skills and the content of the GED Tests parallels the overlap between high school curricula and these same essential skills.[7]

The current version of the GED Tests, introduced in 1988, not only requires a direct writing sample, but also demands more highly developed levels of critical thinking than previous versions, reflects the many roles of adults, and acknowledges the sources of change affecting individuals and society. As noted earlier, the test content corresponds to what graduating high school seniors in this country are required to know and demonstrate. Moreover, the test items are based on contexts and settings that adult test takers recognize as relevant to their lives. Many of the items relate to work or everyday life as opposed to school settings, and many pose problems that emphasize practical, rather than purely theoretical, applications of a skill. The GED Tests do not measure recall; all test items require the ability to comprehend, apply, analyze, synthesize, or evaluate written text.

The NALS Assessment Instruments

The prose, document, and quantitative literacy tasks administered in the National Adult Literacy Survey emphasize "real world" problems or activities and require respondents to provide short written answers rather than choose from a list of options. Each literacy scale was designed to allow adults to demonstrate levels of literacy beyond those they might demonstrate on more focused academic exercises. In general, the NALS literacy tasks require individuals to locate and interpret information from narrative materials (prose); to locate, identify, and integrate information found in tables, maps, graphs, and forms (document); and to extract and compute with numerical information from graphs, tables, and other written materials (quantitative).

The prose tasks include texts from newspapers, magazines, and brochures. Most of these materials are expository. The selections vary widely in length, density, content, and use of organizational aids such as headings, bullets, and special typefaces. The document tasks ask respondents to read and interpret tables, schedules, charts, and graphs, and to fill out various types of forms. The quantitative tasks require individuals to perform one or more arithmetic operations using numbers that are embedded in printed materials.

The GED Tests and NALS assessment materials were developed independently, but nonetheless were designed to tap skills that emphasize "real world" contexts and critical thinking. Although the GED Tests include items that relate to everyday situations, they nevertheless require some general academic knowledge and skills that traditionally are learned in high school. The NALS assessment probably assumes less prior knowledge of such content.

Comparing GED and High School Graduates

Previous literacy studies have profiled the prose, document, and quantitative literacy skills of various adult populations in the United States, including young adults, job seekers, and the general adult population.[8] The National Adult Literacy Survey, which assessed the adult population as a whole, found that the average literacy scores of adults whose highest level of education was a GED were no different from those of individuals whose highest level of education was a traditional high school diploma (Table 1). It is important to note that the NALS samples of high school graduates and GED graduates included only those adults who earned no postsecondary education credentials; high school and GED graduates who continued their education past high school or the GED are included in the higher education categories.

Table 1
Average literacy proficiencies of GED graduates and high school graduates

	Prose	Document	Quantitative
GED graduates	268	264	268
High school graduates	270	264	270

Source: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

These findings suggest that there is no difference between the average literacy skills of GED graduates and high school graduates. This is not surprising when we consider that the content of the GED Tests is based on the core curricula of a four-year high school program of study and that the GED score scale is based on the test performance of a national sample of graduating high school seniors. Nevertheless, it is reassuring to see that in an independent study such as the National Adult Literacy Survey, people who terminate their schooling at the high school or GED level have equivalent literacy scores.

Although literacy skills are comparable for these two groups, there are differences in academic background between GED graduates and high school graduates. One obvious difference is that GED graduates left formal schooling before completion and then pursued the GED credential, while high school graduates remained in school to completion.

A recent comparison of GED test results for graduating high school seniors and GED graduates[9] found that, on average, high school seniors outperformed GED graduates in essay writing and mathematics, while GED graduates outperformed high school seniors in the areas of social studies, science, and interpreting literature and the arts. In error correction involving sentence structure, usage, and mechanics, their performance was the same. When results were averaged across all five tests, the performance of GED graduates and high school seniors was equivalent.

About two in three GED graduates (67 percent) completed tenth, eleventh, or twelfth grade before leaving school; more than one in three (37 percent) completed eleventh or twelfth grade.[10] It is worth noting that some students who complete 12 years of schooling do not earn a diploma. They may lack the necessary course credits to graduate on time, or life circumstances—such as marriage, family problems, or the need to work—may interrupt their schooling. For these students, the GED represents a valuable alternative to high school completion.

It is important to question the stereotype that all high school dropouts tend to be weak students; this may not hold true for those who take the GED Tests. Most GED test takers possess strong academic skills, and many continue to pursue their education after leaving school, through self-study, attending GED study classes, or other methods. In a recent survey, nearly seven in ten examinees reported having completed tenth grade or higher, and more than three in four said they had earned in-school grades of "mostly C" or better.[11]

A recent summary of research on the experiences of GED and high school graduates in two-year colleges[12] reported that GED graduates and high school graduates achieved similar grade point averages (2.6 and 2.7, respectively), completed an equivalent number of credit hours per semester (7.2 and 6.9, respectively), and were similarly likely to plan to earn a four-year college degree (33 and 40 percent, respectively).[13]

Research Questions Addressed

The following questions are addressed in this report:

- Using the NALS scales as measures of literacy, what is the range of literacy skills among individuals who take the GED Tests, and how do the skills of passers compare with those of nonpassers? (Part 1)

- What is the relation between literacy skills and the demographic characteristics of GED examinees, passers, and nonpassers? (Part 2)

- What is the relation between literacy skills and the educational experiences of GED examinees, passers, and nonpassers? (Part 3)

- What is the relation between literacy skills and the labor force experiences of GED examinees, passers, and nonpassers? (Part 4)

- How are the academic skills and knowledge measured by the GED Tests similar to or different from the literacy skills measured by the NALS proficiency scales? (Part 5)

- What are the implications of these findings for further research and for policy? (Part 6)

A Note on Interpretations

In comparing the literacy skills of different groups of GED examinees, the authors of this report rely on significance tests using standard errors. (Appendix C provides tables with standard errors for the numbers shown in the graphs.) *Only those proficiency differences that are statistically significant and that are based on sample sizes of 45 or more are noted in the text.*

In some cases, the results for two groups—for example, the percentages of examinees who passed the GED Tests, or average literacy proficiencies—appear to vary, but the difference is not statistically significant. This means that the difference may have occurred by chance. When there is no statistically significant difference, the two results are said to be not different, or comparable.

In other cases, two sets of results may seem to be very similar but are, in fact, statistically different. In this context, similar but statistically different results must also be interpreted in terms of practical significance. That is, not all statistically significant findings have practical significance. Readers should keep this in mind when interpreting the data presented in this report.

Endnotes

[1] National Education Goals Panel. 1993. *National education goals report: Volume 1, the national report.* Washington, D.C.: Author.

[2] GED Testing Service. 1995. *Who took the GED? 1994 GED statistical report.* Washington, D.C.: American Council on Education.

[3] Kirsch, I. S., A. Jungeblut, L. Jenkins, and A. Kolstad. 1993. *Adult literacy in America.* Washington, D.C.: U.S. Department of Education, National Center for Education Statistics.

[4] National Education Goals Panel. 1994. *National education goals report: Building a nation of learners.* Washington, D.C.: Author.

[5] Auchter, J., S. Sireci, and G. Skaggs. 1993. *The Tests of General Educational Development: Technical manual, first edition.* Washington, D.C.: American Council on Education.

[6] Webb, L. 1991. *Relationship of the GED Tests to skills needed in the workplace.* Washington, D.C.: Pelavin Associates.

[7] Auchter, J., et al. 1993. p. 49.

[8] Kirsch, I. S. and A. Jungeblut. 1986. *Literacy: Profiles of America's young adults.* Princeton, NJ: Educational Testing Service. Kirsch, I.S., A. Jungeblut, and A. Campbell. 1992. *Beyond the school doors: The literacy needs of job seekers served by the U.S. Department of Labor.* Washington, D.C.: U.S. Department of Labor, Employment and Training Administration. Kirsch, I. S., A. Jungeblut, L. Jenkins, and A. Kolstad. 1993. *Adult literacy in America.* Washington, D.C.: U.S. Department of Education, National Center for Education Statistics.

[9] Baldwin, J. 1992. GED test performance of adult examinees and high school seniors. *GED profiles: Adults in transition,* 5. Washington, D.C.: American Council on Education.

[10] GED Testing Service. 1994. *Who took the GED? 1993 GED statistical report.* Washington, D.C.: American Council on Education.

[11] Baldwin, J. 1994. Schooling, study, and academic goals. *GED profiles: Adults in transition,* 2. Washington, D.C.: American Council on Education.

[12] Kroll, B. 1993. *Does the key fit the lock? A review of research on GED recipients in community college.* Graduate School of Education, Rutgers University. Paper prepared for GED Testing Service.

[13] Kroll, B. 1993. Unpublished tabulations based on the Undergraduate Table Generation System. Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Survey (1990). Tabulations compared postsecondary education variables for high school graduates (estimated N=6,124,750) and GED graduates (estimated N=439,230) enrolled in two-year public institutions.

Part One: The Literacy Proficiencies of GED Examinees

This part of the report examines the literacy proficiencies of the GED test-taking population as a whole and investigates the skills of individuals who passed the GED Tests and of those who did not. In addition to describing the range of performance by analyzing the percentages of examinees who performed in each level of prose, document, and quantitative literacy, we report the average literacy score results and compare the percentages of examinees in each literacy level who passed the GED Tests.

Levels of Literacy

In any given subgroup of the adult population, literacy skills vary widely. Some individuals in the population display limited prose, document, and quantitative proficiencies, while others demonstrate the ability to perform a wider, more complex array of literacy tasks. Each of the NALS literacy scales is divided into five proficiency levels, each encompassing a range of scores. Figure 1.1 describes performance at each of the five levels of prose, document, and quantitative literacy.

In both the NALS and GED-NALS studies, each literacy level encompasses a range of tasks that are used to define performance at that level. The literacy tasks associated with Level 1 were the least demanding in the assessment, while those associated with Level 5 were the most challenging. Individuals who performed in Level 1 displayed the most limited literacy proficiencies in the assessment, while those in Level 5 demonstrated the most advanced skills. In the area of quantitative literacy, for example, Level 1 tasks typically required a single operation of addition with numbers that were already entered onto a form in column format, while Level 5 tasks often involved contrasting complex information, making high-level inferences, or solving problems involving multiple quantities or operations.

Figure 1.1
Descriptions of the NALS prose, document, and quantitative literacy levels

Literacy level/ score range	Prose literacy scale	Document literacy scale	Quantitative literacy scale
Level 1 **(0 to 225)**	Read short text to locate a single piece of easily identifiable information.	Locate a piece of information based on a literal match; enter personal information into a document.	Perform single, simple arithmetic operations, such as addition, using provided numbers and specified operations.
Level 2 **(226 to 275)**	Locate a single piece of information with distractors present; make low-level inferences; compare and contrast easily identifiable information.	Match a single piece of information, with distractors present; make low-level inferences; cycle through information or integrate data from parts of a document.	Perform a single operation using numbers provided or easily located; determine the operation to be performed from the format of the material.
Level 3 **(276 to 325)**	Match literal information in the text; make low-level inferences; integrate information from lengthy text; generate a response based on easily identifiable information.	Integrate multiple pieces of information from one or more documents; cycle through complex data or graphs which contain irrelevant information.	Locate two or more numbers in material; determine arithmetic operation from terms used in the task.
Level 4 **(326 to 375)**	Perform multiple feature matches of information; integrate or synthesize information from complex or lengthy passages; make complex inferences.	Perform multiple feature matches; cycle through documents; integrate information; make higher levels of inference.	Perform two or more sequential operations; use quantities found in different displays; infer operations from information provided or prior knowledge.
Level 5 **(376 to 500)**	Search for information in dense text; make high-level inferences; use background knowledge; contrast complex information.	Search through complex displays that contain multiple distractors; make high level, text-based inferences; use specialized knowledge.	Perform multiple operations sequentially; disembed features of problem from text; use background knowledge to determine quantities or operations needed.

Source: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

Adults who score in Level 1 (that is, those with literacy scores between 0 and 225) may perform the Level 1 tasks successfully, but they are likely to have more difficulty with tasks in Level 2 and even greater difficulty with tasks in Levels 3 through 5. Similarly, adults who score in Level 3 are very likely to succeed with the Level 1, Level 2, and Level 3 tasks, but probably find the Level 4 and 5 tasks quite challenging. Adults in the highest level displayed the ability to perform the full array of literacy tasks in the assessment.

In defining the five levels on each of the three literacy scales, the developers of the NALS set a high standard of consistency (an 80 percent probability of success) for performing the literacy tasks. To earn a literacy score that falls in Level 2, for example, individuals had to be able to successfully perform tasks associated with that level at least 80 percent of the time. These same individuals may also succeed at tasks associated with higher levels of literacy but do so less than 80 percent of the time. The 80 percent probability standard provides a high degree of confidence that individuals who earn literacy scores at a given level can consistently perform the tasks associated with that level.

To describe the range of literacy skills of GED examinees as well as of GED passers and non-passers, Figure 1.2 presents the percentages of test takers in the GED-NALS sample who performed in each of the five levels of prose, document, and quantitative literacy. To provide a context for these results, it may be helpful to note that, in general, the GED-NALS sample represented the GED test-taking population well in terms of important characteristics such as age, sex, race, disability status, household income, and country of birth. In addition, GED test performance results for the study sample are very similar to those of other national samples of GED test takers. There were some sample differences worth noting, however, and these are discussed in Appendix A.

In the GED-NALS study, 8 percent of GED examinees performed in Level 1 on the prose and document scales, while 16 percent scored in this level on the quantitative scale (Figure 1.2). Approximately 40 percent of the examinees displayed skills associated with Level 2 on each of the literacy scales. In other words, roughly half of all GED test takers surveyed performed in the two lowest literacy levels. The remainder scored in the three highest levels of prose, document, and quantitative literacy. That is, between 35 and 43 percent of the examinees performed in Level 3, while 8 to 10 percent reached Level 4; virtually none (less than 0.5 percent) attained Level 5.

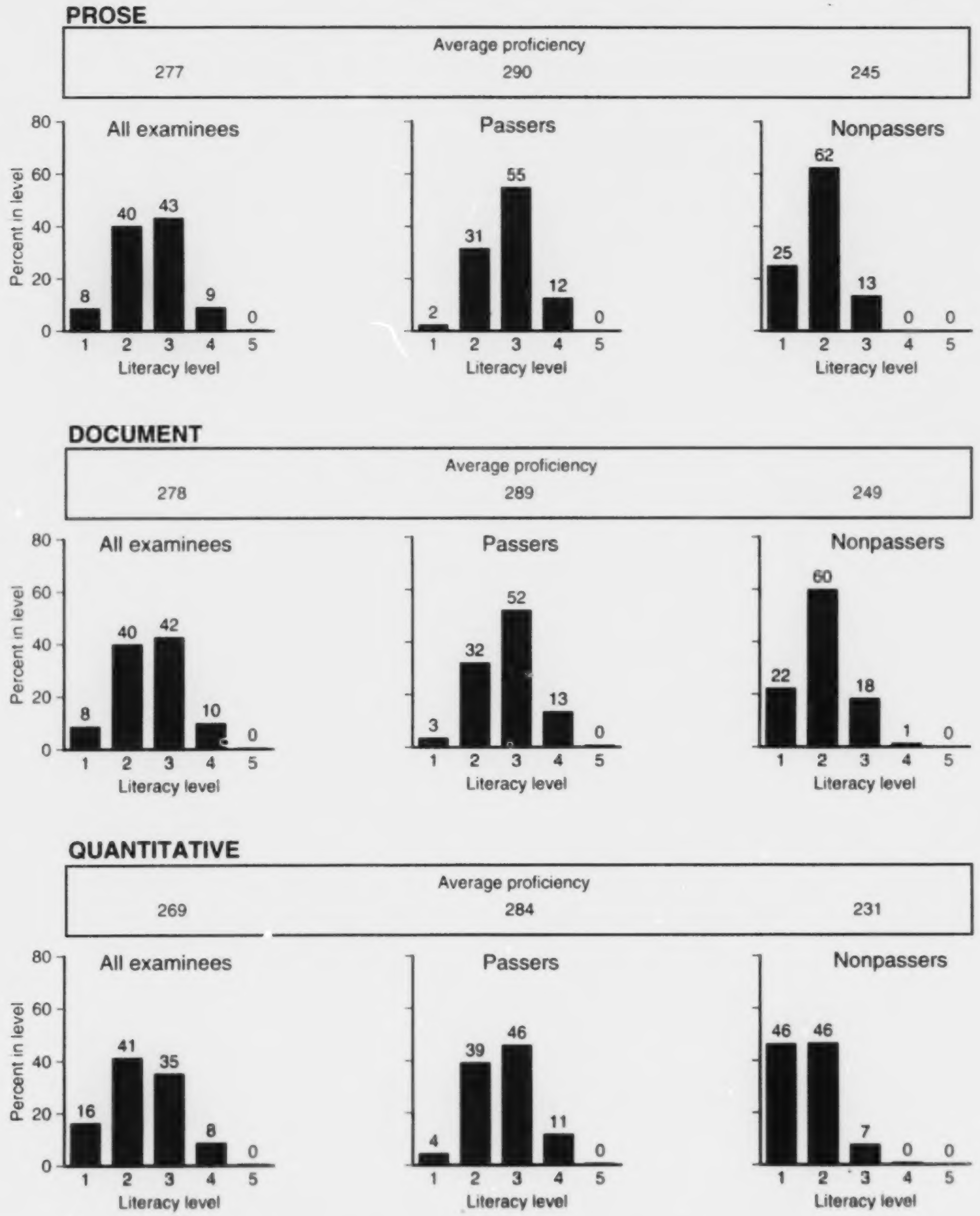
Not surprisingly, individuals who passed the GED battery of five tests[1] (or "passers") performed considerably better in the literacy assessment, on average, than those who did not ("nonpassers"). Most passers scored in Levels 3 and 4 of prose and document literacy (67 and 65 percent, respectively), and nearly three in five reached these levels on the quantitative scale (57 percent). In contrast, most nonpassers performed in Levels 1 or 2 on the prose, document, and quantitative literacy scales (87, 81, and 92 percent, respectively).

What do these results mean? In its 1994 report on the nation's progress toward meeting the education goal for literacy, the National Education Goals Panel, a bipartisan panel of governors, federal and state legislators, and White House officials, specified as a worthwhile target goal that the nation "increase the percentage of adults aged 16 and older who score at or above Level 3 in prose literacy on the National Adult Literacy Survey." The national goals report also noted that:

> *Although adults who score below Level 3 do have some limited literacy skills, they are not likely to be able to perform the range of complex literacy tasks that the National Education Goals Panel considers important for competing successfully in a global economy and exercising fully the rights and responsibilities of citizenship.*[2]

The 1992 National Adult Literacy Survey found that only about half of all American adults reached Levels 3, 4, or 5 on each of the literacy scales. Although adults with higher levels of education tended to display higher levels of literacy, even some adults with college degrees (typically those who were either foreign born or age 65 or older) performed below the education goal target of Level 3. Such findings suggest that the need for basic skills

Figure 1.2
Percentages of GED examinees, passers, and nonpassers who performed in each literacy level



Note: Level 1, 0 to 225; Level 2, 226 to 275; Level 3, 276 to 325; Level 4, 326 to 375; Level 5, 376 to 500. Percentages below .5 are rounded to 0.

Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

education may exist even for those with college degrees. Moreover, basic skills education may be needed to enable adults with lower levels of literacy to succeed in higher education, in the workplace, and in pursuing lifelong learning.

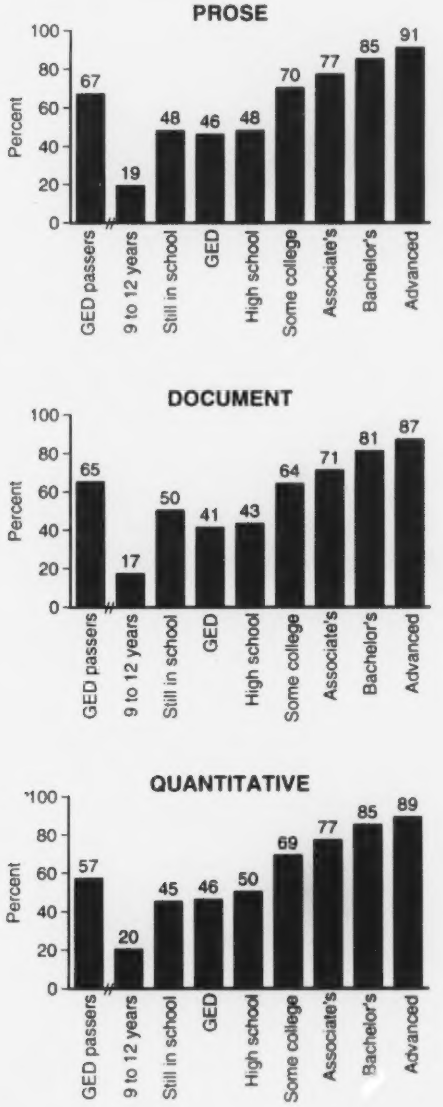
In order to consider how to increase the number of adults who demonstrate literacy skills at or above Level 3, it is useful first to know the percentage of recent GED passers who performed at these levels compared to the percentages of adults with various levels of education as surveyed in the NALS (Figure 1.3).

As noted above, the GED-NALS study found that between 57 and 67 percent of GED passers performed at or above Level 3 on the prose, document, and quantitative literacy scales. These results are considerably higher than the 41 to 46 percent found in the NALS study for adults whose highest level of education was the GED. These findings suggest that, for most GED passers, the GED credential reflects the attainment of a moderate level of literacy skills widely viewed as necessary for social and economic advancement and for exercising the rights and responsibilities of citizenship.

Average Literacy Proficiencies

In addition to analyzing the distribution of literacy proficiencies within the GED test-taking population, it is helpful to examine the average literacy score results. GED examinees who participated in the GED-NALS Comparison Study achieved average proficiency scores of 277 on the prose literacy scale, 278 on the document scale, and 269 on the quantitative scale. The average prose and document scores lie at the low end of the Level 3 range, whereas the average quantitative score is at the high end of the Level 2 range (Figure 1.4). Thus, on each of the three literacy scales, the typical GED examinee performed at the dividing line between Level 2 and Level 3.

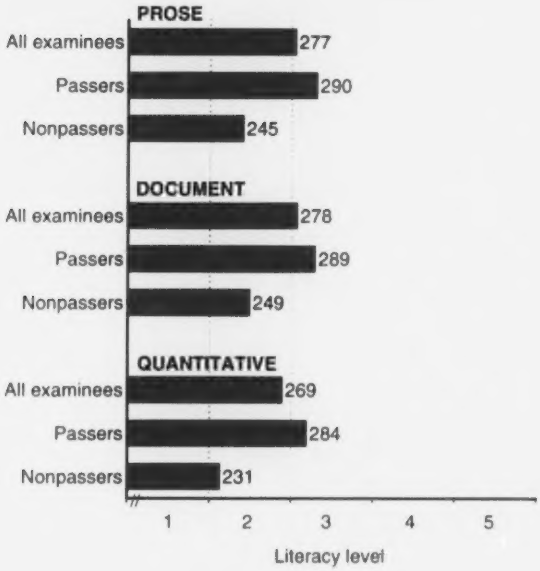
Figure 1.3
Percentages of recent GED passers* and adults by highest level of education** who displayed moderate to high literacy proficiencies (Level 3 or higher)



Note: Levels 3, 4, and 5: 276 to 500.

Sources: *American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993. **U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey, 1992.

Figure 1.4
Average literacy proficiencies
of GED examinees, passers, and nonpassers



Note: Level 1, 0 to 225; Level 2, 226 to 275; Level 3, 276 to 325; Level 4, 326 to 375; Level 5, 376 to 500.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

There are substantial differences in average literacy scores between adults who passed the GED Tests and those who did not. These differences range from a low of 40 points on the document scale to a high of 53 points on the quantitative scale. Passers performed near the middle of the Level 3 range, on average (290 on the prose, 289 on the document, and 284 on the quantitative scales), while nonpassers typically scored in the middle of the Level 2 range (245 on the prose, 249 on the document, and 231 on the quantitative scales). Stated differently, the GED Tests tend to distinguish between persons whose literacy skills are in the moderate range (Level 3), on average, and those whose skills are more limited (Level 2). This finding indicates that, in addition to certifying acquisition of the knowledge and skills associated with high school completion, passing the GED Tests signifies, on average, at least moderate levels of prose, document, and quantitative literacy.

To put these results in perspective, it is helpful to compare the average literacy proficiencies of GED examinees with those of other groups and to explore the types of literacy tasks that characterize performance at various points along the proficiency scales. Figures 1.5a, 1.5b, and 1.5c show a series of literacy tasks along the prose, document, and quantitative literacy scales and compare the average scores of GED passers and nonpassers with those of adults age 16 and older who are still in school, as well as those whose highest levels of education range from 0 to 8 years of schooling to graduate studies or degrees. (The latter data are from the 1992 National Adult Literacy Survey.)

Adults in the United States who participated in the National Adult Literacy Survey and whose highest level of education was a high school diploma or GED demonstrated average prose, document, and quantitative proficiencies in the high end of the Level 2 range. In contrast, recent GED passers in the GED-NALS study scored, on average, in the Level 3 range.

At first glance, these results might appear to be contradictory..It is important to note, however, that GED-NALS study participants who passed the GED Tests differ in important ways from the sample of GED graduates included in the 1992 National Adult Literacy Survey. The latter group is composed of adults age 16 and older who indicated that a GED was their highest level of education. Although some of these individuals may have been recent GED graduates, many undoubtedly earned their GED credentials years ago. More importantly, none had continued their education beyond the GED. In the 1992 National Adult Literacy Survey, GED graduates who went on to earn postsecondary credentials were not identified as GED graduates; rather, they were classified in the appropriate higher education categories.

Figure 1.5a
Average prose literacy proficiencies of GED examinees, passers, nonpassers, and adults with varying levels of education

	Sample Tasks: Prose Scale	*NALS Study, 1992*	*GED–NALS Study, 1993*	
0 225	**149** Identify country in short article **210** Locate one piece of information in sports article **224** Underline sentence explaining action stated in short article	**177** 0–8 years of schooling		LEVEL 1
275	**226** Underline meaning of a term in government brochure **250** Locate two features of information in sports article **275** Interpret instructions from appliance warranty	**231** 9–12 years of schooling **268** GED credential **270** High school diploma **271** Still in high school	**245** GED nonpassers	LEVEL 2
325	**280** Write brief letter explaining error on credit card bill **304** Read news article; identify sentence that provides interpretation of situation **316** Read lengthy article to identify two behaviors that meet stated condition	**294** Some college **308** Two-year degree **322** Four-year degree	**277** GED examinees **290** GED passers	LEVEL 3
375	**328** State in writing argument made in lengthy newspaper article **347** Explain difference between two types of employee benefits **359** Contrast views expressed in two editorials on automotive technologies **374** Compare two metaphors used in poem	**336** Graduate studies/degree		LEVEL 4
500	**382** Compare approaches stated in narrative on growing up **410** Summarize two ways lawyers may challenge prospective jurors **423** Interpret brief phrase from lengthy news article			LEVEL 5

Sources: *Columns 1 & 2: National Adult Literacy Survey, U.S. Department of Education, National Center for Education Statistics, 1992.*
Column 3: GED–NALS Comparison Study, American Council on Education and Educational Testing Service, 1993.

Figure 1.5b
Average document literacy proficiencies of GED examinees, passers, nonpassers, and adults with varying levels of education

	Sample Tasks: Document Scale	NALS Study, 1992	GED–NALS Study, 1993	
0 225	**69** Sign your name **151** Locate expiration date on driver's license **214** Using pie graph, locate type of vehicle having specific sales	**170** 0–8 years of schooling		LEVEL 1
275	**232** Locate intersection on street map **245** Locate eligibility from table of employee benefits **259** Identify and enter information on application for social security card	**227** 9–12 years of schooling **264** GED credential, high school diploma **274** Still in high school	**249** GED nonpassers	LEVEL 2
325	**277** Identify information from bar graph depicting source of energy and year **296** Use sign out sheet to respond to call about resident **314** Use bus schedule to determine appropriate bus for given set of conditions **323** Enter information given into an auto maintenance record form	**290** Some college **299** Two-year degree **314** Four-year degree	**278** GED examinees **289** GED passers	LEVEL 3
375	**342** Identify correct percentage meeting specified conditions from a table of such information **348** Use bus schedule to determine appropriate bus for given conditions	**326** Graduate studies/degree		LEVEL 4
500	**379** Use table of information to determine pattern in oil exports across years **396** Using a table depicting information about parental involvement in school survey, write a paragraph summarizing extent to which parents and teachers agree			LEVEL 5

Sources: *Columns 1 & 2: National Adult Literacy Survey, U.S. Department of Education, National Center for Education Statistics, 1992.*
Column 3: GED–NALS Comparison Study, American Council on Education and Educational Testing Service, 1993.

Figure 1.5c
Average quantitative literacy proficiencies of GED examinees, passers, nonpassers, and adults with varying levels of education

	Sample Tasks: Quantitative Scale	*NALS Study, 1992*	*GED–NALS Study, 1993*	
0 225	**191** Total a bank deposit entry	**169** 0–8 years of schooling		LEVEL 1
275	**238** Calculate postage and fees for certified mail **246** Determine difference in price between tickets for two shows **270** Calculate total costs of purchase from an order form	**227** 9–12 years of schooling **268** GED credential **269** Still in high school **270** High school diploma	**231** GED nonpassers **269** GED examinees	LEVEL 2
325	**278** Using calculator, calculate difference between regular and sale price from an advertisement. **308** Using calculator, determine the discount from an oil bill if paid within ten days	**295** Some college **307** Two-year degree **322** Four-year degree	**284** GED passers	LEVEL 3
375	**325** Plan travel arrangements for meeting using flight schedule **350** Using information stated in news article, calculate amount of money that should go to raising a child **368** Using pamphlet, calculate the yearly amount a couple would receive for basic supplemental security income	**334** Graduate studies/degree		LEVEL 4
500	**375** Calculate miles per gallon using information given on mileage record chart **382** Determine individual and total costs on an order form for items in a catalog **421** Using calculator, determine the total cost of carpet to cover a room			LEVEL 5

Sources: *Columns 1 & 2: National Adult Literacy Survey, U.S. Department of Education, National Center for Education Statistics, 1992.* *Column 3: GED–NALS Comparison Study, American Council on Education and Educational Testing Service, 1993.*

Unlike GED graduates in the NALS sample, most GED passers in the GED-NALS Comparison Study sample had educational aspirations beyond the GED. Indeed, 80 percent of the test takers in the GED-NALS sample reported that they planned to pursue further education. Because educational aspirations and literacy skills are strongly related, it is not surprising that the latter group had higher average literacy scores.

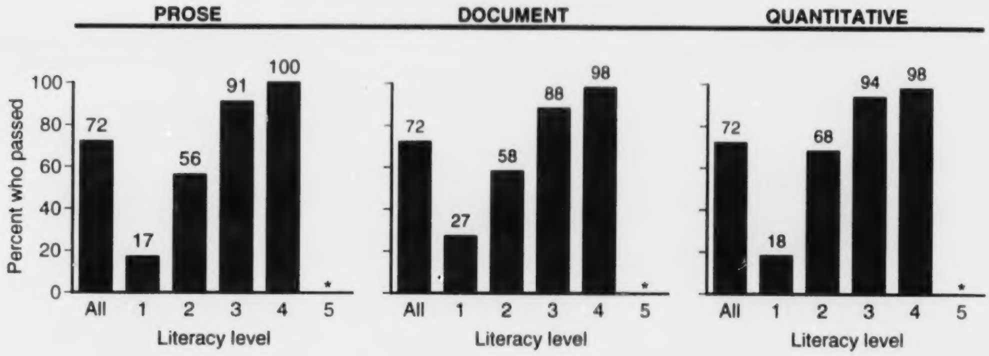
Literacy Proficiencies and Performance on the GED Tests

One important objective of the GED-NALS study was to investigate the relationship between literacy proficiencies and performance on the GED Tests. Figure 1.6 shows the percentage of adults in each of the five levels of prose, document, and quantitative literacy who succeeded in passing the GED battery.

About nine in ten examinees who performed in Level 3 on the prose (91 percent), document (88 percent), and quantitative (94 percent) literacy scales passed the GED Tests. In contrast, only about one in four or five (17 to 27 percent) of the examinees who scored in Level 1 passed the tests. Individuals who performed in Level 2 were somewhat more likely to pass than those in Level 1 (56 to 68 percent across the literacy scales).

These data indicate that individuals who scored at or above Level 3 have a very high likelihood of passing the GED Tests. Further, the sharp increase in pass rates between Levels 2 and 3 indicates the existence of a strong relationship between literacy attainment and performance on the GED test battery. Stated differently, passing the GED Tests is a strong predictor of at least moderate levels of literacy proficiency, and higher literacy proficiency is a strong predictor of passing the GED Tests.

Figure 1.6
Percentages of all GED examinees, and examinees in each literacy level, who passed the GED Tests



*Sample size is too small to provide a reliable proficiency estimate.

Note: Level 1, 0 to 225; Level 2, 226 to 275; Level 3, 276 to 325; Level 4, 326 to 375; Level 5, 376 to 500.

Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

Endnotes

[1] For the purposes of this study, GED passers were defined as test takers who met or surpassed their state's minimum GED score requirements for a GED diploma. Although each state that contracts to use the GED Tests establishes its own minimum requirements, the Commission on Educational Credit and Credentials of the American Council on Education requires that such score requirements be set at a standard no lower than that which would be met by an estimated 75 percent of the 1987 norm group of graduating high school seniors. (This means that at least 25 percent of this norm group does not meet the GED score standard.) In most states, the minimum GED score standard is met by only 70 percent of the norm group. For further information, see: GED Testing Service. 1995. *Who took the GED? The GED 1994 statistical report*, table 1.2. Washington, D.C.: American Council on Education.

[2] National Education Goals Panel. 1994. *The National Education Goals Panel report: Building a nation of learners*. Washington, D.C.: Author.

Part Two:
Results for GED Examinees in Various Demographic Groups

In addition to permitting an analysis of the literacy proficiencies of GED passers and nonpassers, the GED-NALS study results can be used to profile the skills of examinees in subgroups defined by age, racial or ethnic group, country of birth, sex, geographic region, and disability status. The results of these detailed analyses are presented in this part of the report.

Age

Only a small percentage of the GED examinees (6 percent) were age 45 or older. Nearly one in three (31 percent) were between the ages of 25 and 44, and almost two in three (63 percent) were age 24 or younger (Table 2.1).

Table 2.1
Percentages of GED examinees, by age

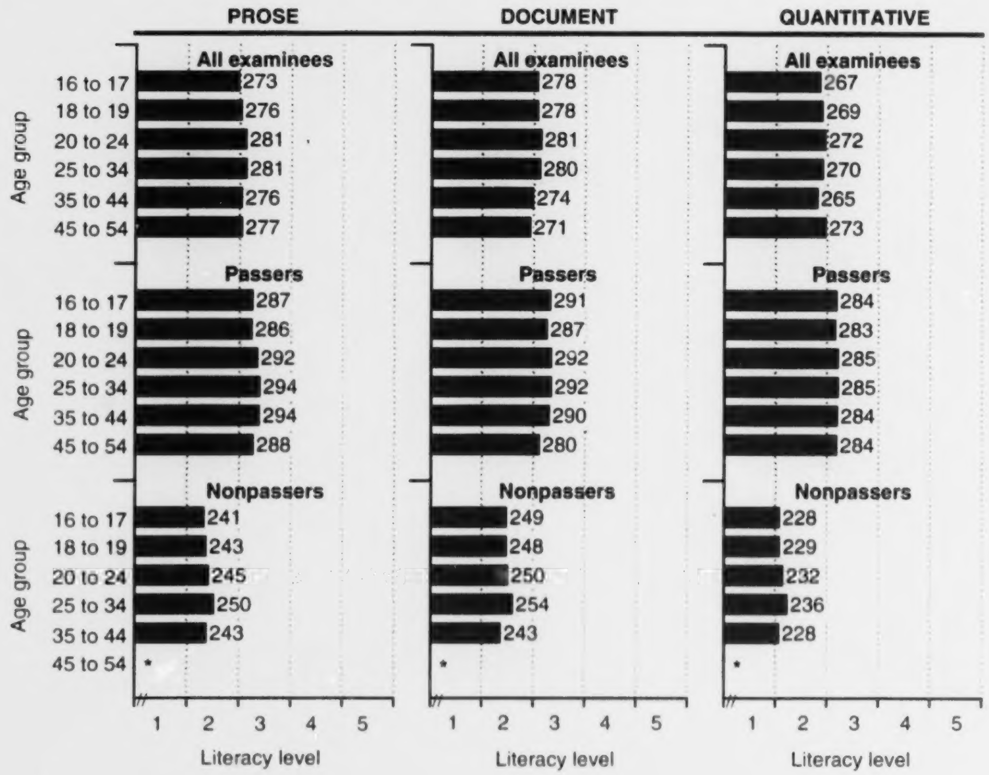
Age	Percent
16 to 17	19 (1.4)
18 to 19	24 (1.4)
20 to 24	20 (1.3)
25 to 34	20 (1.3)
35 to 44	11 (0.6)
45 to 54	4 (0.5)
55 and older	2 (0.4)

Note: Numbers in parentheses are standard errors.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

GED examinees in different age groups demonstrated comparable proficiencies in the literacy assessment (Figure 2.1). While there appear to be some differences in performance across the age groups, they are not statistically significant. Regardless of their age, GED examinees tended to score in the high end of the Level 2 range or the low end of the Level 3 range in the literacy assessment.

The average literacy scores of examinees who passed the GED Tests generally fall within the Level 3 range, while the average scores of those who failed the tests lie within the Level 2 range. Among the passers, there are no significant differences in average literacy proficiencies across the age groups. Similarly, among nonpassers, younger and older persons displayed comparable prose, document, and quantitative proficiencies.

Figure 2.1
Average literacy proficiencies, by age



* Sample size is too small to provide a reliable proficiency estimate.

Note: Level 1, 0 to 225; Level 2, 226 to 275; Level 3, 276 to 325; Level 4, 326 to 375; Level 5, 376 to 500.

Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

The percentages of individuals who passed the GED Tests range from 66 percent among 35- to 44-year-olds to 81 percent among those age 55 and older, but these differences among the age groups are not statistically significant (Table 2.2). In other words, older examinees were as likely as younger examinees to pass the GED Tests.

Table 2.2
Percentages who passed the GED Tests, by age

Age	Percent who passed
16 to 17	70 (2.9)
18 to 19	76 (2.6)
20 to 24	75 (1.9)
25 to 34	69 (2.3)
35 to 44	66 (3.1)
45 to 54	72 (4.9)
55 and older	81 (7.5)

Note: Numbers in parentheses are standard errors.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

Race/Ethnicity

Nearly two-thirds (64 percent) of the GED examinees were white, while 21 percent were African American and 10 percent were Hispanic (Table 2.3) The remainder belonged to other race or ethnic groups.

Table 2.3
Percentages of GED examinees, by race/ethnicity

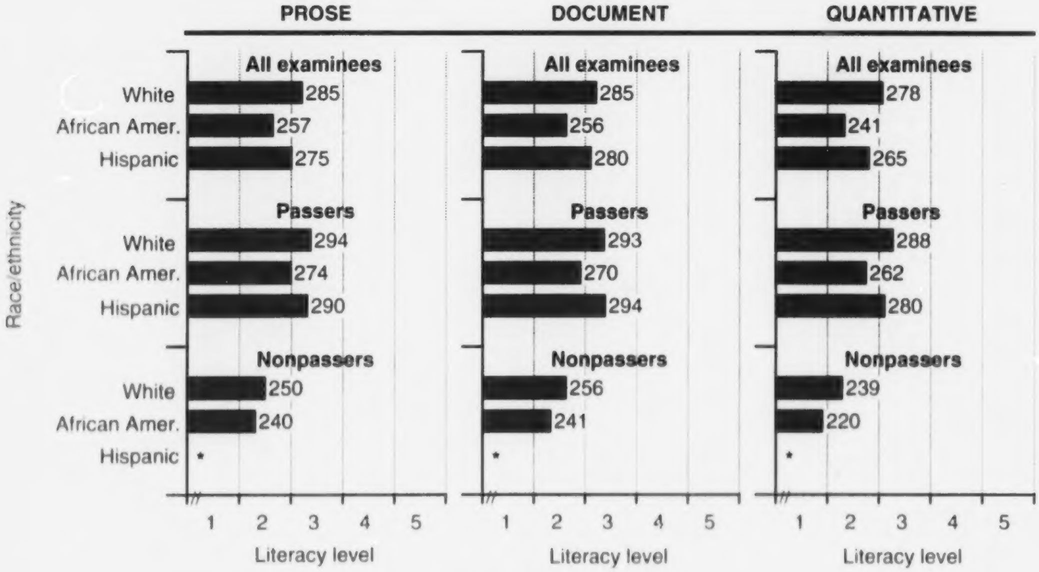
Race/ethnicity	Percent
White	64 (1.8)
African American	21 (1.7)
Hispanic	10 (0.9)
Other	5 (0.6)

Note: Numbers in parentheses are standard errors. "Other" includes Asian, Pacific Islander, American Indian, and Other.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

On average, white GED examinees displayed stronger literacy skills than Hispanic examinees, who displayed stronger literacy skills than African American examinees (Figure 2.2).

The prose, document, and quantitative literacy scores of whites and Hispanics who passed the GED tend to fall within the Level 3 range. On average, the two groups have similar prose (294 and 290), document (293 and 294), and quantitative (288 and 280) proficiencies. In contrast, African American GED passers tended to score in the high end of the Level 2 range, on average, on each of the literacy scales (274, 270, and 262, respectively).

Figure 2.2
Average literacy proficiencies, by race/ethnicity



* Sample size is too small to provide a reliable proficiency estimate.

Note: Level 1, 0 to 225; Level 2, 226 to 275; Level 3, 276 to 325; Level 4, 326 to 375; Level 5, 376 to 500.

Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

It is interesting to compare these findings with results from the 1992 National Adult Literacy Survey, which found substantial disparities in average literacy proficiencies between white adults and their African American and Hispanic counterparts with comparable levels of education. Among individuals whose highest level of schooling was a high school diploma, the gap in average literacy scores between white and African American adults ranged from 36 to 47 points across the three literacy scales, while the gap between white and Hispanic adults with this level of education ranged from 29 to 39 points. Among individuals whose highest level of education was a GED, the proficiency gaps between whites and African Americans ranged from 33 to 42 points across the literacy scales, while the gaps between whites and Hispanics ranged from 36 to 37 points.

The GED-NALS study reveals considerably smaller differences in average literacy scores between white examinees who passed the GED Tests and their African American and Hispanic counterparts. The proficiency gap between white and African American GED passers ranges from 20 to 26 points across the literacy scales, while the gap between white and Hispanic passers is only 1 to 8 points. The smaller literacy gaps found in the GED-NALS sample may be due to the fact that the literacy skills of each group are more similar, on average, than those of the general population of adults with a GED as their highest level of education. Several factors may contribute to differences in gaps in average literacy scores for the NALS sample compared with the GED-NALS sample. For example, the NALS sample included a larger proportion of foreign-born adults. Moreover, GED graduates in the NALS sample may have received their credentials recently or long ago, and thus, different passing standards may have been in effect compared to those in effect for recent test takers in the GED-NALS sample. In any event, differences in literacy performance among different groups warrant further investigation.

Eighty percent of the white examinees, 72 percent of the Hispanic examinees, and 49 percent of the African American examinees passed the GED Tests (Table 2.4). Thus, white and Hispanic adults were far more likely to pass than were African American adults. Although white adults appear to have a higher likelihood of success with the tests than Hispanic adults, the difference in passing rates between these two groups is not statistically significant.

Table 2.4
Percentages who passed the GED Tests, by race/ethnicity

Race/ethnicity	Percent who passed
White	80 (1.3)
African American	49 (2.6)
Hispanic	72 (3.7)

Note: Numbers in parentheses are standard errors.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

Differences in literacy proficiencies and academic skills associated with high school completion may be influenced by many factors, such as disparities in opportunity to learn, suitable academic counseling, and the quality of teaching and instructional resources, among others. Nonetheless, these findings are cause for concern. Further research must be undertaken to find ways to improve pre- and post-testing, curriculum, instruction, and counseling for adult learners from diverse ethnic and cultural backgrounds to ensure their readiness for testing.

Country of Birth

About 7 percent of the GED test takers reported that they were born outside the United States (Table 2.5).

Table 2.5
Percentages of GED examinees, by country of birth

Country of birth	Percent
United States	93 (0.7)
Other country	7 (0.7)

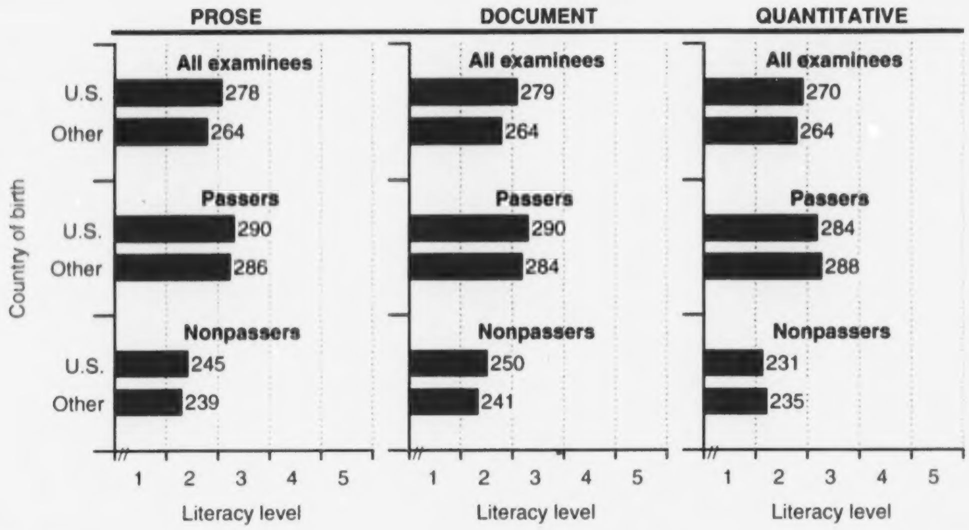
Note: Numbers in parentheses are standard errors.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

As shown in Figure 2.3, the average prose and document literacy scores of foreign-born GED examinees (264 across the scales) are lower than those of native-born examinees (278, 279, and 270, respectively). While the average quantitative literacy proficiencies of the two groups also appear to differ, this difference is not statistically significant.

Among individuals who passed the GED Tests, the literacy skills of native- and foreign-born adults do not vary, on average.

In viewing these results, it is important to remember that the survey only assessed literacy skills in the English language. Accordingly, the results do not provide any indication of foreign-born GED examinees' literacy proficiencies in other languages.

Figure 2.3
Average literacy proficiencies, by country of birth



Note: Level 1, 0 to 225; Level 2, 226 to 275; Level 3, 276 to 325; Level 4, 326 to 375; Level 5, 376 to 500.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

Native-born examinees (73 percent) were far more likely than foreign-born examinees (55 percent) to pass the GED Tests (Table 2.6). Given differences in English language use, educational experience, and other factors, this finding should not be surprising.

Table 2.6
Percentages who passed the GED Tests, by country of birth

Country of birth	Percent who passed
United States	73 (1.2)
Other country	55 (3.6)

Note: Numbers in parentheses are standard errors.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

Sex

Forty-two percent of the individuals who took the GED Tests were male, and 58 percent were female (Table 2.7). The relatively high proportion of female GED examinees is similar to that found in previous national surveys.[1]

Table 2.7
Percentages of GED examinees, by sex

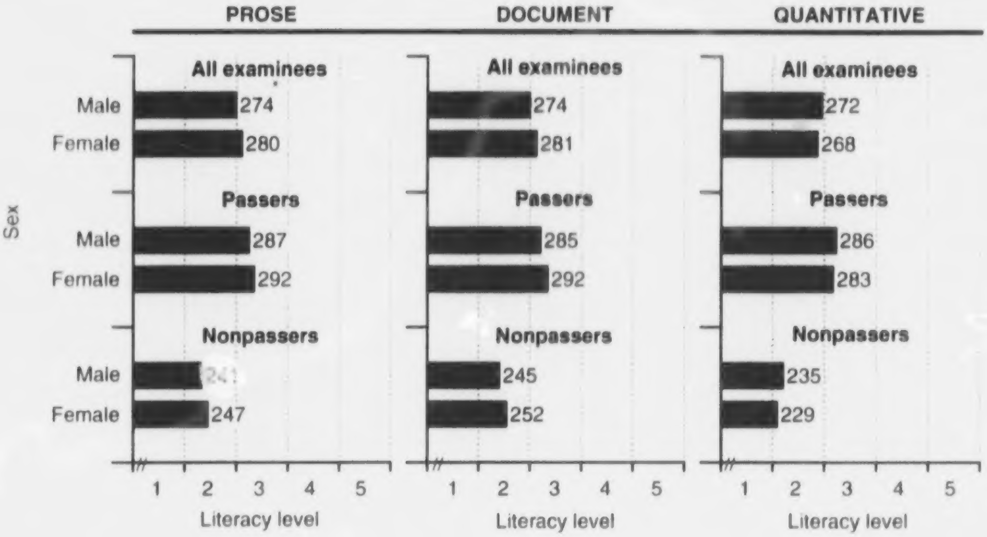
Sex	Percent
Male	42 (1.4)
Female	58 (1.4)

Note: Numbers in parentheses are standard errors.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

Female GED examinees tended to outscore male examinees on the prose and document literacy scales, although the differences between the groups are not large. On the quantitative scale, male and female examinees performed comparably (Figure 2.4).

Similarly, women who passed the GED Tests displayed slightly higher average prose and document proficiencies than did men, but there was no difference in average quantitative scores between male and female passers. Female nonpassers performed somewhat better than their male counterparts on the document literacy scale, but there are no significant differences between the two groups on the prose or quantitative scales. The average literacy proficiencies of male and female nonpassers lie in the low end of the Level 2 range.

Figure 2.4
Average literacy proficiencies, by sex



Note: Level 1, 0 to 225; Level 2, 226 to 275; Level 3, 276 to 325; Level 4, 326 to 375; Level 5, 376 to 500.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

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As shown in Table 2.8, women and men were equally likely to pass the GED Tests (72 percent).

Table 2.8
Percentages who passed the GED Tests, by sex

Sex	Percent who passed
Male	72 (1.9)
Female	72 (1.2)

Note: Numbers in parentheses are standard errors.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

Geographic Region

Eleven percent of the GED examinees who participated in the GED-NALS study resided in the Northeast, while 39 percent lived in the Midwest, 34 percent in the South, and 16 percent in the West (Table 2.9). The states within each region are identified in Appendix B.

Table 2.9
Percentages of GED examinees, by region

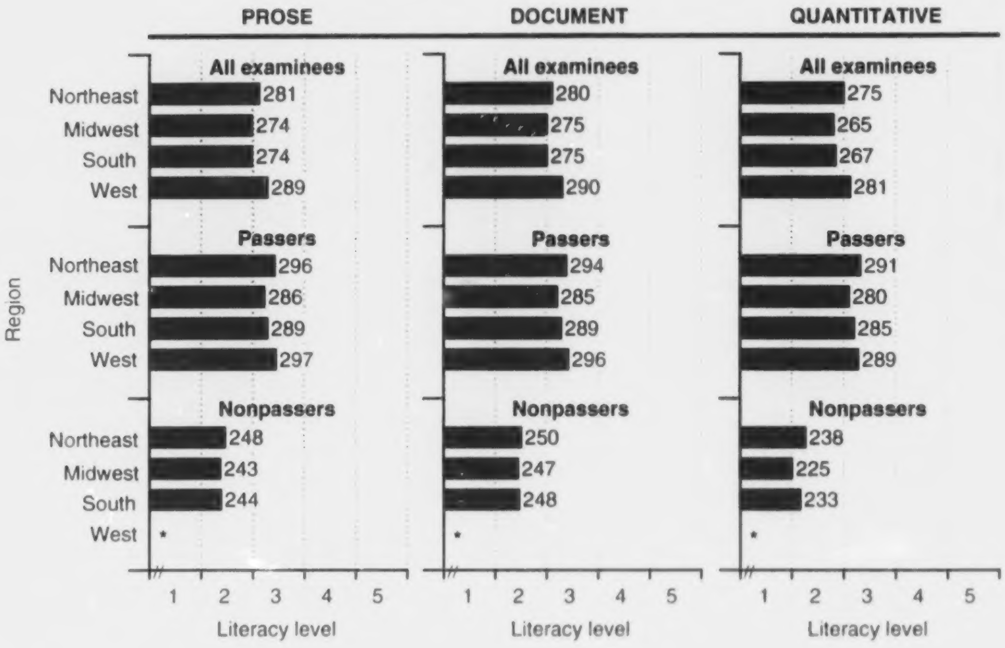
Region	Percent
Northeast	11 (1.0)
Midwest	39 (2.1)
South	34 (1.6)
West	16 (1.0)

Note: Numbers in parentheses are standard errors.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

These figures differ somewhat from program statistics on the geographic distribution of test takers. Program statistics show that, in 1993, 20 percent of GED test takers lived in the Northeast, 20 percent in the Midwest, 36 percent in the South, and 24 percent in the West.[2] Because test takers in the Northeast and West are underrepresented in the GED-NALS sample while examinees in the Midwest are overrepresented, these results should be interpreted with caution.

There are some variations in literacy proficiencies among examinees in different regions (Figure 2.5). On all three literacy scales, GED examinees in the West outperformed those in the South and Midwest. Although they also appear to have stronger literacy skills than examinees in the Northeast, these differences are not statistically significant.

Figure 2.5
Average literacy proficiencies, by region



* Sample size is too small to provide a reliable proficiency estimate.

Note: Level 1, 0 to 225; Level 2, 226 to 275; Level 3, 276 to 325; Level 4, 326 to 375; Level 5, 376 to 500.

Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

Regional differences in performance are also evident among individuals who passed the GED Tests. On the prose and quantitative literacy scales, passers in the Midwest earned lower average scores than those in the Northeast and West. On the document scale, there are no significant differences in performance among passers in various regions.

Nonpassers in various regions performed comparably in the assessment, on average.

As shown in Table 2.10, examinees in the West were more likely to pass the GED Tests (83 percent) than those in the Northeast (70 percent), the Midwest (73 percent), and the South (66 percent). These varying rates may be influenced by different factors. For example, as noted earlier, GED passing score requirements for earning a high school equivalency credential differ from one state to another. Moreover, state policies differ with regard to individuals' access to testing, availability and funding of GED study classes, and other programs for adult education.[3]

Table 2.10
Percentages who passed the GED Tests, by region

Region	Percent who passed
Northeast	70 (3.8)
Midwest	73 (2.5)
South	66 (1.5)
West	83 (2.0)

Note: Numbers in parentheses are standard errors.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

Disability Status

Eight percent of the GED examinees reported having a physical or mental health condition that keeps them from participating fully in work, school, housework, or other activities (Table 2.11). Six percent of the examinees reported having difficulty seeing words or letters in ordinary newspaper print, even when wearing glasses or contact lenses. Five percent said they have difficulty hearing what is said in a normal conversation with another person, even with the use of a hearing aid.

Table 2.11
Percentages of GED examinees, by disability status

Disability status	Percent
Any condition	
Yes	8 (0.7)
No	91 (0.8)
Visual impairment	
Yes	6 (0.6)
No	94 (0.5)
Hearing impairment	
Yes	5 (0.5)
No	95 (0.5)

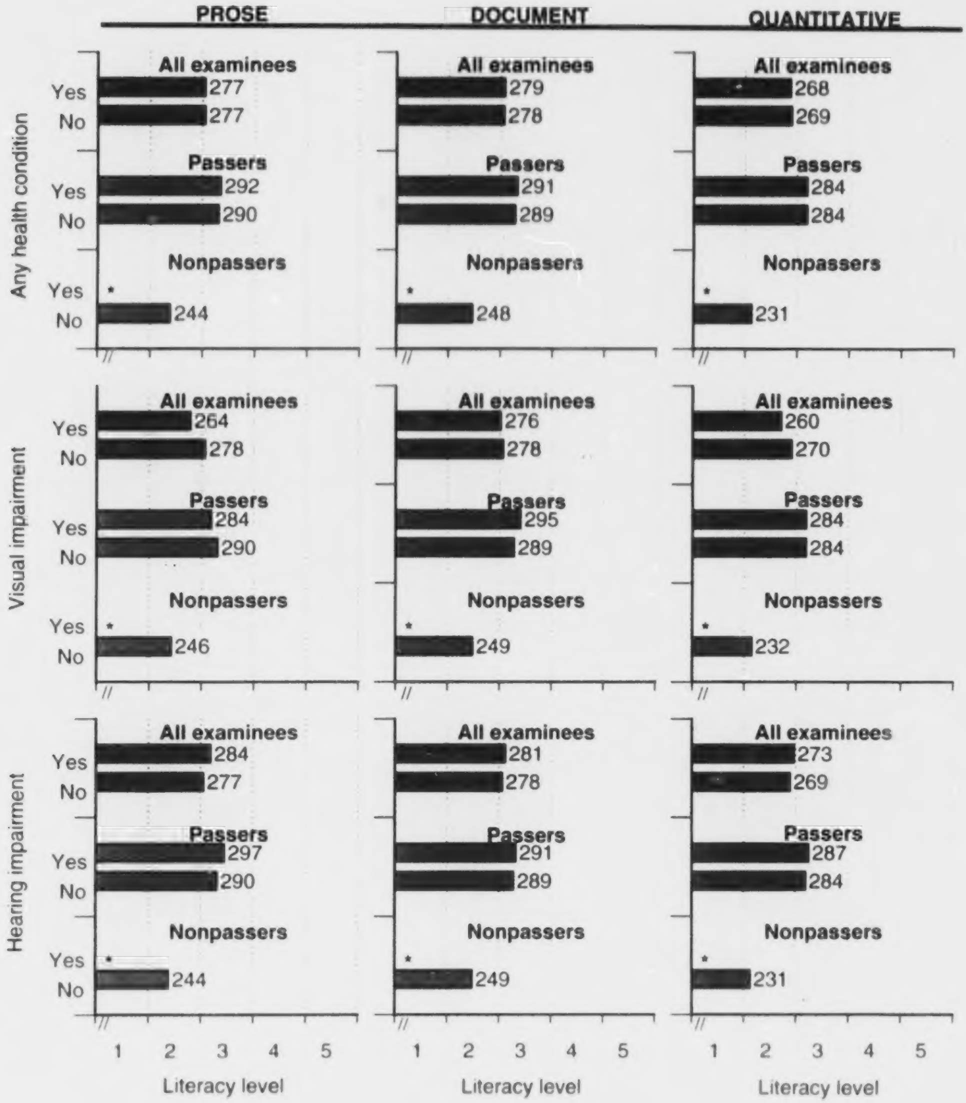
Note: Numbers in parentheses are standard errors. Percents may not sum to 100 due to rounding error.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

The average literacy scores of GED examinees who reported having a limiting or disabling condition are approximately the same as those of individuals who did not report such conditions (Figure 2.6). This is true for passers and nonpassers, as well: Individuals with limiting conditions performed as well in the assessment as those without them.

As shown in Table 2.12, examinees with limiting conditions (68 percent) were about as likely to pass the GED Tests as those without such conditions (72 percent). Although the passing rates for these two groups appear to vary, the difference is not statistically meaningful.

Disparities in literacy proficiency are found between individuals who are visually impaired and those who are not: The average prose (264) and quantitative (260) scores of GED examinees with visual impairments are lower than those of examinees without such impairments (278 and 270, respectively). Further, adults with vision problems were less likely to pass the GED Tests (60 percent) than those without such problems (73 percent). However, adults who identified themselves as visually impaired and who passed the GED Tests performed as well in the assessment, on average, as those who had no such impairments.

Figure 2.6
Average literacy proficiencies, by disability status



* Sample size is too small to provide a reliable proficiency estimate.

Note: Level 1, 0 to 225; Level 2, 226 to 275; Level 3, 276 to 325; Level 4, 326 to 375; Level 5, 376 to 500.

Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

Adults with hearing impairments had higher average prose scores than examinees with normal hearing, but the average document and quantitative proficiencies of the two groups are comparable. Among those individuals who passed the GED Tests, there are no statistically significant differences in literacy scores, on average, between those who had hearing impairments and those who did not. Notably, adults with hearing problems were as likely as those with normal hearing to pass the GED Tests.

Table 2.12
Percentages who passed the GED Tests, by disability status

Disability status	**Percent who passed**
Any condition	
Yes	68 (4.5)
No	72 (1.3)
Visual impairment	
Yes	60 (4.6)
No	73 (1.4)
Hearing impairment	
Yes	74 (5.5)
No	72 (1.4)

Note: Numbers in parentheses are standard errors.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

The GED Tests are available in Braille, large print, and audio cassette editions for persons with documented disabilities, but these special editions were not used in this study. As previously indicated, examinees who reported having a hearing impairment passed the tests at the same rate as those with normal hearing, but visually impaired examinees were less likely to pass than those with normal vision. It is not known whether pass rates would be higher if these individuals had taken the special editions of the GED Tests.

Recent studies have found that the incidence of vision problems is relatively high in groups with limited reading abilities, and that reading difficulties may be associated with poor vision.[4] It therefore seems especially important to screen potential adult education program participants for visual impairments.

Endnotes

[1] Hayes, E., and J. Baldwin. 1993. The gender gap: Women and men who take the GED Tests. *GED profiles: Adults in transition*, 6.

[2] GED Testing Service. 1994. *Who took the GED? GED 1993 statistical report.* Washington, D.C.: American Council on Education.

[3] GED Testing Service. 1994. *Who took the GED? GED 1994 statistical report.* Washington, D.C.: American Council on Education.

[4] Keefe, D. and V. Meyer. 1988. Profiles of and instructional strategies for adult disabled readers. *Journal of Reading*, 31(7), 614–19. Bristow, P. S. 1992, Fall. Vision screening: A must for adult education programs. *NCAL connections*, 2(3), 1, 6–7.

Part Three:
The Educational Experiences and Expectations of GED Examinees

Previous research has described systematic relationships between adults' educational backgrounds and their GED study behavior.[1] This part of the report investigates the role of literacy skills in GED examinees' educational decisions, behaviors, and likelihood of passing the GED Tests. Specifically, we explore associations between individuals' literacy skills and their reasons for leaving school, educational aspirations, participation in basic skills programs, and preparation for the GED Tests.

Reasons for Leaving School

GED test takers were asked to indicate the main reason they stopped their schooling when they did. As shown in Table 3.1, the reasons most often cited were a loss of interest in school (22 percent), family or personal problems (21 percent), and pregnancy (14 percent).

Table 3.1
Percentages of GED examinees, by reason for leaving school

Reason for leaving school	Percent
Lost interest in school	22 (0.9)
Family or personal problems	21 (1.1)
Pregnancy	14 (1.0)
Went to work or into military	8 (0.7)
Behavior problems	7 (0.5)
Learning needs not met	5 (0.6)
Financial problems	5 (0.6)
Academic problems	5 (0.6)
Other	14 (0.8)

Note: Numbers in parentheses are standard errors. Percents may not sum to 100 due to rounding error.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

Smaller percentages of GED examinees left school to go to work or to join the military (8 percent), because of behavior problems (7 percent), academic problems (5 percent), or financial problems (5 percent), or because school did not meet their learning needs (5 percent). An additional 14 percent cited other reasons for leaving school. A recent study of GED test takers' reasons for not completing their formal schooling found similar results.[2]

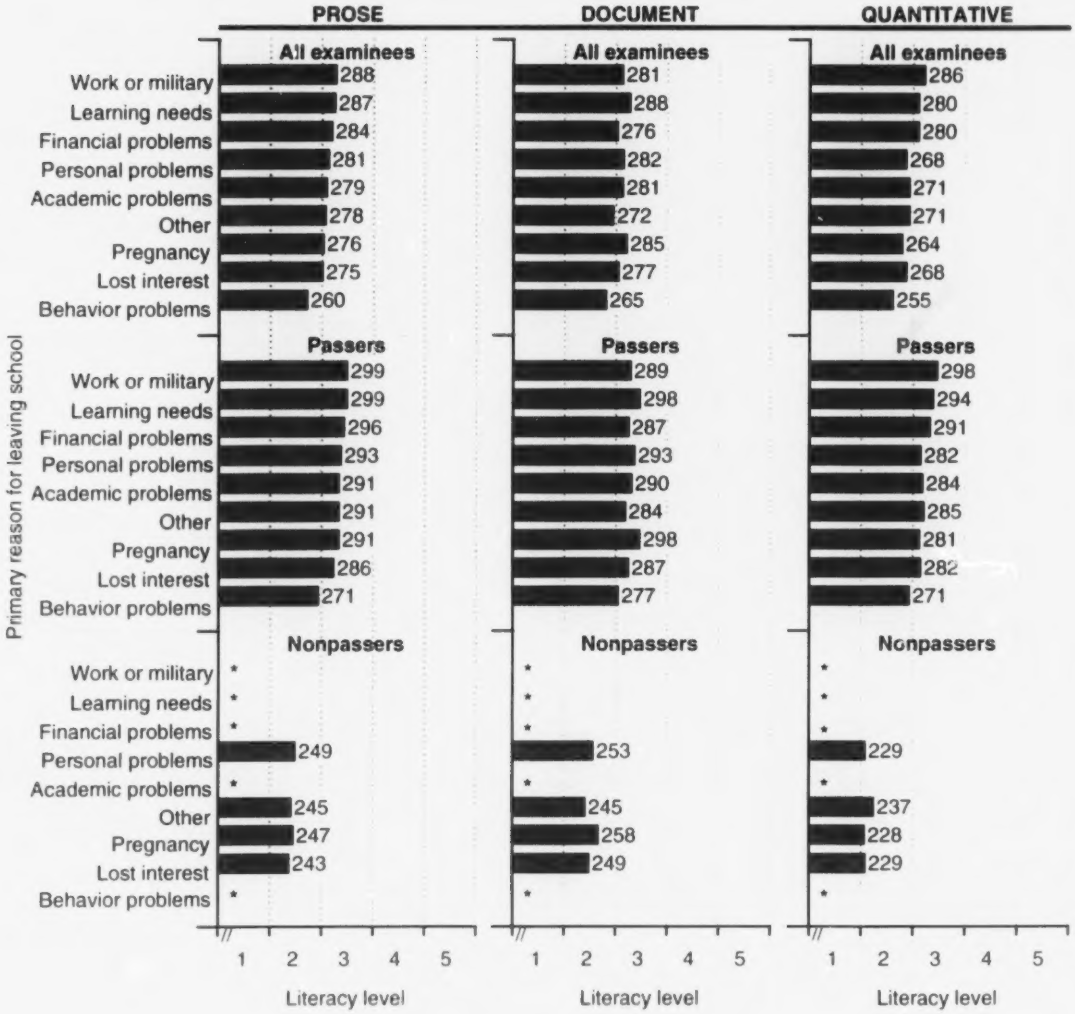
These findings suggest that the educational experiences of GED examinees vary considerably. A student's decision to leave formal schooling is often a difficult one which may be associated with considerable stress and personal conflict. Negative experiences with formal schooling—for example, feeling that school does not meet one's learning needs, having behavior problems, or losing interest in school—may also influence a person's attitudes toward subsequent formal educational experiences and opportunities.

Individuals who left school because of behavior problems displayed the weakest proficiencies on all three literacy scales. Those who dropped out of school to go to work or join the military or because their learning needs were not met demonstrated the strongest literacy proficiencies. However, not all comparisons are statistically significant. (Figure 3.1).

As Table 3.2 shows, adults who left school either because of financial problems or to go to work or join the military generally were more likely to pass the GED (79 and 78 percent, respectively) than those citing any other reasons (64 to 76 percent), although not all the differences are statistically significant.

It is noteworthy that examinees who reported leaving school for academic reasons outperformed those who dropped out because of behavior problems. Previous research[3] has found that strong academic skills and higher grades are strong predictors of high school retention. However, this predictive relationship may not apply to GED test takers; they represent a self-selected segment of the dropout population whose academic skills are relatively strong. In a more heterogeneous population, academic skills are likely to be more predictive of staying in school.

Figure 3.1
Average literacy proficiencies, by reason for leaving school



*Sample size is too small to provide a reliable proficiency estimate.

Note: Level 1, 0 to 225; Level 2, 226 to 275; Level 3, 276 to 325; Level 4, 326 to 375; Level 5, 376 to 500.

Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

Table 3.2
Percentages who passed the GED Tests, by reason for leaving school

Reason for leaving school	Percent who passed
Financial problems	79 (4.6)
Went to work or into military	78 (2.8)
Learning needs not met	76 (6.4)
Family or personal problems	74 (2.4)
Lost interest in school	73 (2.5)
Academic problems	72 (4.0)
Pregnancy	67 (3.1)
Behavior problems	64 (4.4)
Other	71 (2.4)

Note: Numbers in parentheses are standard errors.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

Educational Expectations

When asked if they expected to earn other diplomas, certificates, degrees, or accreditation after the GED, 10 percent of the test takers said they did not expect to do so (Table 3.3). Roughly one-third (32 percent) expected to complete a vocational, trade, or business degree, while 28 percent were seeking an associate's degree and 20 percent were seeking a bachelor's degree. Just 5 percent anticipated earning an advanced degree.

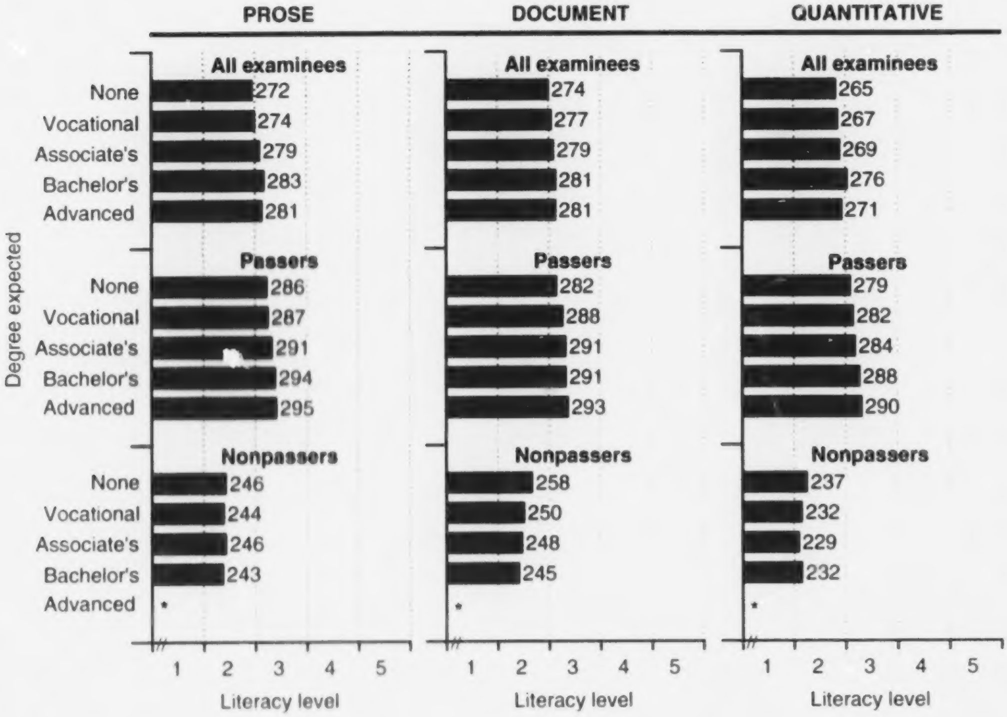
Table 3.3
Percentages of GED examinees, by educational expectations

Expected degree	Percent
Vocational degree	32 (1.2)
Associate's degree	28 (1.4)
Bachelor's degree	20 (0.9)
Advanced degree	5 (0.9)
Other	5 (0.5)
None	10 (0.7)

Note: Numbers in parentheses are standard errors.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

Educational expectations and literacy proficiencies appear to be related. GED test takers who expected to earn bachelor's degrees displayed stronger prose and quantitative literacy skills, on average, than those who anticipated earning vocational degrees or who did not plan to pursue further credentials (Figure 3.2). It appears that individuals with stronger literacy skills either choose or are encouraged to pursue higher academic credentials. Similarly, among adults who passed the GED Tests, those who expected to earn bachelor's degrees outperformed those who had no specific educational expectations. Among nonpassers, however, the average literacy scores of individuals with different educational aspirations did not vary significantly.

Figure 3.2
Average literacy proficiencies, by educational expectations



* Sample size is too small to provide a reliable proficiency estimate.
Note: Level 1, 0 to 225; Level 2, 226 to 275; Level 3, 276 to 325; Level 4, 326 to 375; Level 5, 376 to 500.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

In general, higher educational aspirations also seem to be associated with a higher likelihood of passing the GED Tests. Approximately four-fifths (79 percent) of the GED test takers who expected to earn a bachelor's degree passed the tests, compared with only 70 percent of those who expected to earn vocational degrees and 66 percent of those who did not plan to pursue additional educational credentials (Table 3.4).

Table 3.4
Percentages who passed the GED Tests, by educational expectations

Expected degree	Percent who passed
Vocational degree	70 (2.0)
Associate's degree	74 (1.9)
Bachelor's degree	79 (1.9)
Advanced degree	74 (4.9)
Other	62 (5.9)
None	66 (3.9)

Note: Numbers in parentheses are standard errors.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

Participation in a Basic Skills Program

Examinees were asked whether they were currently enrolled in or had ever participated in a program other than regular school to improve their basic skills—that is, their reading, writing, and arithmetic skills. Basic skills programs refer to classes or programs outside of regular school that advance a person toward an elementary or high school diploma, including GED classes or study toward a college degree. (Thus, "basic" is not limited to elementary-level skills.) Nearly three in ten GED examinees (28 percent) reported that they currently or previously were enrolled in such a program (Table 3.5). This compares to only about one in ten adults age 25 to 64 in the NALS study who had ever enrolled in a basic skills program.

Table 3.5
Percentages of GED examinees, by participation in a basic skills program

Ever participated in a basic skills program?	Percent
Yes	28 (0.8)
No	72 (0.9)

Note: Numbers in parentheses are standard errors.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

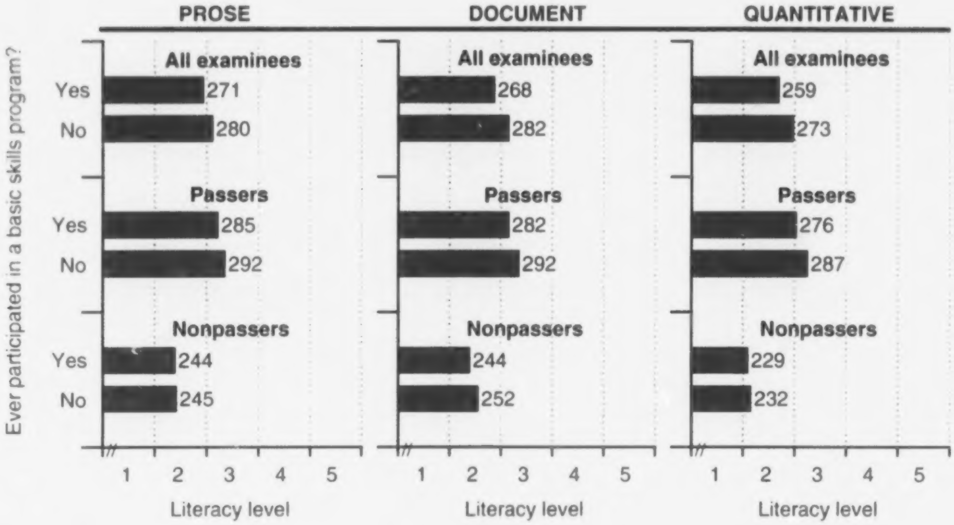
The average literacy proficiencies of GED examinees who currently or previously were enrolled in a program to improve their basic skills were lower than those of examinees who were not (Figure 3.3). Test takers who had enrolled in a basic skills program had average prose, document, and quantitative literacy scores of 271, 268, and 259, respectively. Nonparticipants had average scores of 280, 282, and 273, respectively.

Further, among individuals who passed the GED Tests, basic skills program nonparticipants outscored participants by approximately 10 points on the document and quantitative literacy scales and by slightly fewer points on the prose scale. Among the nonpassers, however, adults who had enrolled in a basic skills program and those who had not done so performed comparably in the assessment.

These data suggest that individuals with lower literacy proficiencies are more likely than those with higher proficiencies to need help in improving their skills; thus, they are more likely to seek out or be referred to basic skills programs. The survey data cannot tell us whether participants' proficiencies were substantially lower before they enrolled in a basic skills program or to what extent their skills improved as a result of their time in the program.

As Table 3.6 shows, individuals who had not participated in a basic skills program were more likely to pass the GED Tests (75 percent) than those who had participated in such a program (65 percent). Many interrelated factors may influence the likelihood of passing the tests, including skill levels upon entry into a program, amount and quality of study time, and skill levels at the time of test taking.

Figure 3.3
Average literacy proficiencies, by participation in a basic skills program



Note: Level 1, 0 to 225; Level 2, 226 to 275; Level 3, 276 to 325; Level 4, 326 to 375; Level 5, 376 to 500.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

Again, these findings suggest that basic skills classes and programs are serving examinees with lower levels of literacy who may require longer periods of study for the GED than their more literate peers.

Table 3.6
Percentages who passed the GED Tests, by participation in a basic skills program

Ever participated in a basic skills program?	Percent who passed
Yes	65 (3.2)
No	75 (1.3)

Note: Numbers in parentheses are standard errors.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

Methods of Study for the GED Tests

Examinees were asked to indicate the primary way in which they had studied for the GED Tests. This information can help program developers plan appropriate instructional alternatives for adult learners with various study preferences. However, it should be recognized that examinees may rely on more than one method to help them prepare for the tests.

More than half the GED examinees reported that they had primarily used formal study methods to prepare for the tests: 43 percent had attended a GED class, and 12 percent had attended a learning center (Table 3.7). About one in three prepared for the tests using informal methods, such as studying from a GED book or manual (14 percent); taking the Official GED Practice Tests (13 percent); or studying with a tutor, family member, or friend, or watching a GED study program on television (5 percent). Twelve percent of the examinees said they did not study before taking the tests.

Table 3.7
Percentages of GED examinees, by GED study method

Method of studying for GED Tests	Percent
Attended GED class	43 (1.0)
Studied GED book or manual	14 (0.8)
Took GED Practice Tests	13 (0.8)
Attended a learning center	12 (0.6)
Did not study	12 (0.7)
Studied with tutor/family/t.v.	5 (0.7)
Other	2 (0.3)

Note: Numbers in parentheses are standard errors. Percentages may not sum to 100 due to rounding error.
"Tutor/family/t.v." includes studying with a tutor, family member, or friend, or watching GED programs on television.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

In general, individuals who prepared by taking the GED Practice Tests achieved significantly higher average prose (294) and quantitative (287)

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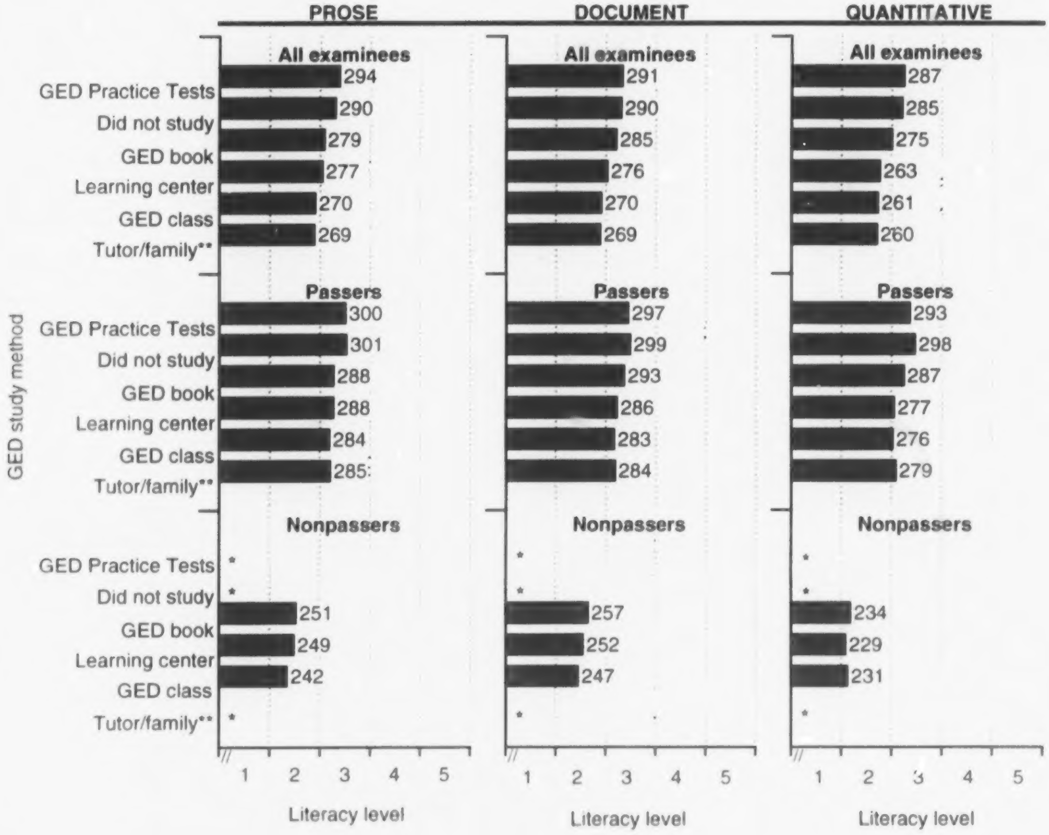
literacy scores than adults who prepared in other ways (Figure 3.4). A similar pattern is found on the document literacy scale, although not all differences are statistically significant. The average proficiencies of persons who did not

Figure 3.4
Average literacy proficiencies, by GED study method



* Sample size is too small to provide a reliable proficiency estimate.

** "Tutor/family" includes studying with a tutor, family member, or friend or watching GED programs on television.

Note: Level 1, 0 to 225; Level 2, 226 to 275; Level 3, 276 to 325; Level 4, 326 to 375; Level 5, 376 to 500.

Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

study for the tests (285 to 290) were comparable to those of examinees who took the GED Practice Tests.

These findings suggest that individuals who have strong academic and literacy skills may require little or no additional study before taking the GED Tests. Many of these more literate adults take the Official GED Practice Tests to determine whether their skills are strong enough to pass the actual tests. Adults who pass the GED Practice Tests are unlikely to also enroll in a formal class designed for GED study unless they still lack confidence in their skills. As table 3.8 shows, those who reported that taking the GED Practice Tests was their primary preparation method were more likely to pass the actual GED Tests (87 percent) than were examinees who studied in other ways or who did not study at all (65 to 79 percent).

In contrast, examinees with weaker academic preparation and lower literacy proficiencies are more likely to seek to improve their skills by enrolling in a formal class or learning center designed for GED study. Indeed, it is not surprising that examinees who studied most by attending a GED learning center or review class had average literacy scores well below those of examinees who studied in other ways (260 to 277 across the scales). Moreover, these individuals were less likely to pass the GED Tests (65 to 70 percent) than other examinees.

Table 3.8
Percentages who passed the GED Tests, by GED study method

Method of studying for GED Tests	Percent
Took GED Practice Tests	87 (3.4)
Did not study	79 (2.4)
Studied GED book or manual	77 (2.4)
Attended a learning center	70 (3.0)
Studied with tutor/family/t.v.*	69 (4.6)
Attended GED class	65 (1.8)
Other	67 (7.4)

Note: Numbers in parentheses are standard errors.
*Includes studying with tutor, family member, or friend, or watching GED programs on television.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

It is important to note that these data provide no information about the skills of adults upon enrollment in GED classes, how long they remained in such classes, how much they studied, or how much their skills improved by the time they took the GED Tests. Assessing students using pre- and post-tests in order to measure skills needed to pass the GED Tests provides valuable information that can be used to diagnose students' learning needs and to determine their readiness to take the GED Tests.

Endnotes

[1] Baldwin, J. 1991. Schooling, study, and academic goals: The education of GED candidates. *GED profiles: Adults in transition*, 2. Washington D.C.: American Council on Education.

[2] Baldwin, J. 1991. Why did they drop out? Reasons GED candidates give for leaving school. *GED profiles: Adults in transition*, 4. Washington, D.C.: American Council on Education.

[3] Rock, D. A., R. B. Eckstrom, and M. E. Goertz. 1988. *Education and american youth.* Philadelphia, PA: The Falmer Press.

Part Four:
The Employment Experiences and Economic Status of GED Examinees

In recent years, numerous reports—such as *America's Choice: High Skills or Low Wages, Toward a More Perfect Union, Workplace Competencies: The Need to Improve Literacy and Employment Readiness,* and *The Learning Enterprise*[1] —have emphasized the roles of education and literacy in meeting this nation's human resource needs. According to *The Learning Enterprise,* "The association between skills and opportunity for individual Americans is powerful and growing. . . . Individuals with poor skills do not have much to bargain with; they are condemned to low earnings and limited choices."[2]

Results from the National Adult Literacy Survey support such views. On each of the three literacy scales, adults who performed in the two lowest literacy levels were far less likely than their more literate peers to be employed full time and to earn high wages. Moreover, they were far more likely to receive food stamps and to be in or near poverty.

This part of the report examines relationships between GED examinees' labor force experiences and economic status, on the one hand, and their literacy proficiencies, on the other. In the GED-NALS study, the relationships between literacy and economic outcomes may be expected to be weaker than was found in the NALS study. This is primarily due to the fact that nearly two-thirds of the GED-NALS sample are between the ages of 16 and 24. As the NALS data reveal, these relationships are stronger among older adults, for whom the ages 25 to 45 are peak earning years.

Labor Force Participation

GED test takers were asked to indicate their labor force status during the week before the survey. In general, the employed are persons who work for pay either full time or part time, and the unemployed are those without jobs who are looking for work. The U.S. Department of Labor defines the U.S.

work force as comprising employed and unemployed civilians. Thus, persons who are neither employed nor unemployed are considered out of the work force.

Less than half the examinees reported that they were employed the week before the survey—27 percent full time and 17 percent part time (Table 4.1). Three percent were employed but not at work because of a temporary illness, vacation, work stoppage, or some other reason. Thirty percent of examinees were unemployed, and another 23 percent were out of the labor force.

Table 4.1
Percentages of GED examinees, by labor force status

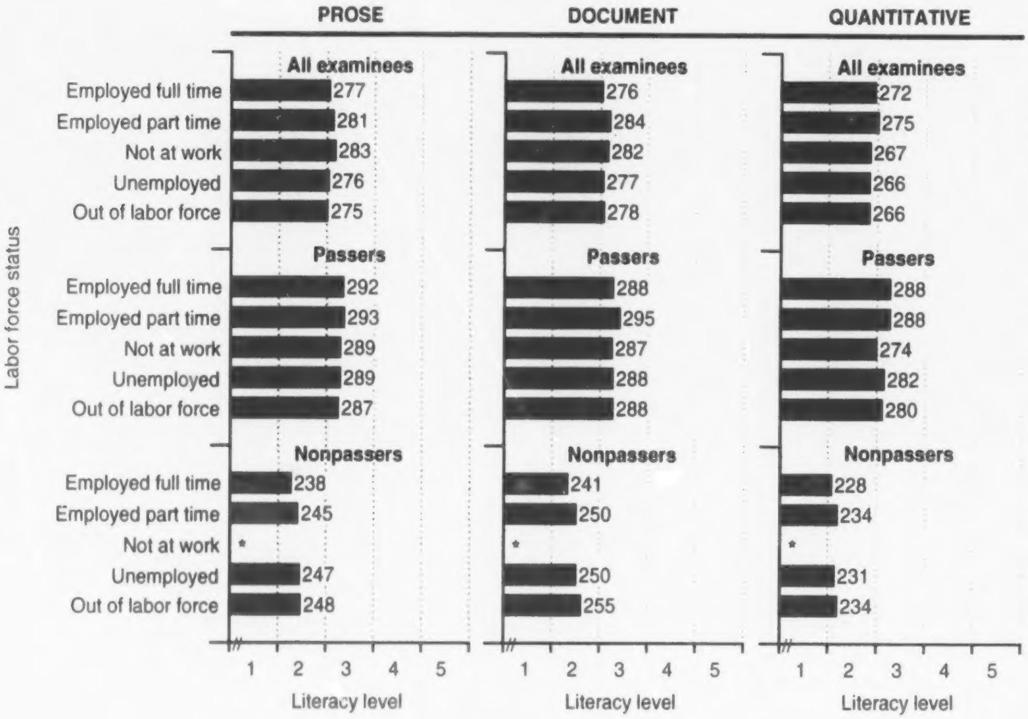
Labor force status	Percent
Employed full time	27 (1.2)
Employed part time	17 (0.9)
Employed, not at work	3 (0.4)
Unemployed	30 (1.2)
Out of labor force	23 (1.2)

Note: Numbers in parentheses are standard errors.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

There are no statistically significant differences in average prose or document literacy proficiencies among those in various labor force groups (Figure 4.1). In other words, in these two areas of literacy, the skills displayed by GED examinees who were unemployed or out of the labor force were, on average, comparable to those of examinees who were employed. On the quantitative literacy scale, however, full- and part-time workers had higher average scores than individuals who were unemployed. This finding suggests that quantitative literacy skills may be more strongly related to employment outcomes among GED examinees than are prose and document literacy.

Roughly three out of four GED examinees who reported they were working the week before the survey (73 to 75 percent) passed the GED Tests (Table 4.2). There is no statistically significant difference in passing rates between those who were unemployed or out of the labor force (70 and 69 percent, respectively) and those who were employed.

Figure 4.1
Average literacy proficiencies, by labor force status



* Sample size is too small to provide a reliable proficiency estimate.

Note: Level 1, 0 to 225; Level 2, 226 to 275; Level 3, 276 to 325; Level 4, 326 to 375; Level 5, 376 to 500.

Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

Table 4.2
Percentages who passed the GED Tests, by labor force status

Labor force status	Percent who passed
Employed full time	73 (1.8)
Employed part time	75 (2.6)
Employed, not at work	87 (6.1)
Unemployed	70 (2.0)
Out of labor force	69 (2.5)

Note: Numbers in parentheses are standard errors.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

Number of Weeks Worked

When asked how many weeks they had worked for pay during the 12 months before the survey, 27 percent of the GED test takers said they had not worked at all, and another 15 percent indicated that they had worked only 1 to 13 weeks (Table 4.3). Nearly three in ten test takers (29 percent) reported having worked 40 or more weeks, or the entire year.

Table 4.3
Percentages of GED examinees, by weeks worked for pay

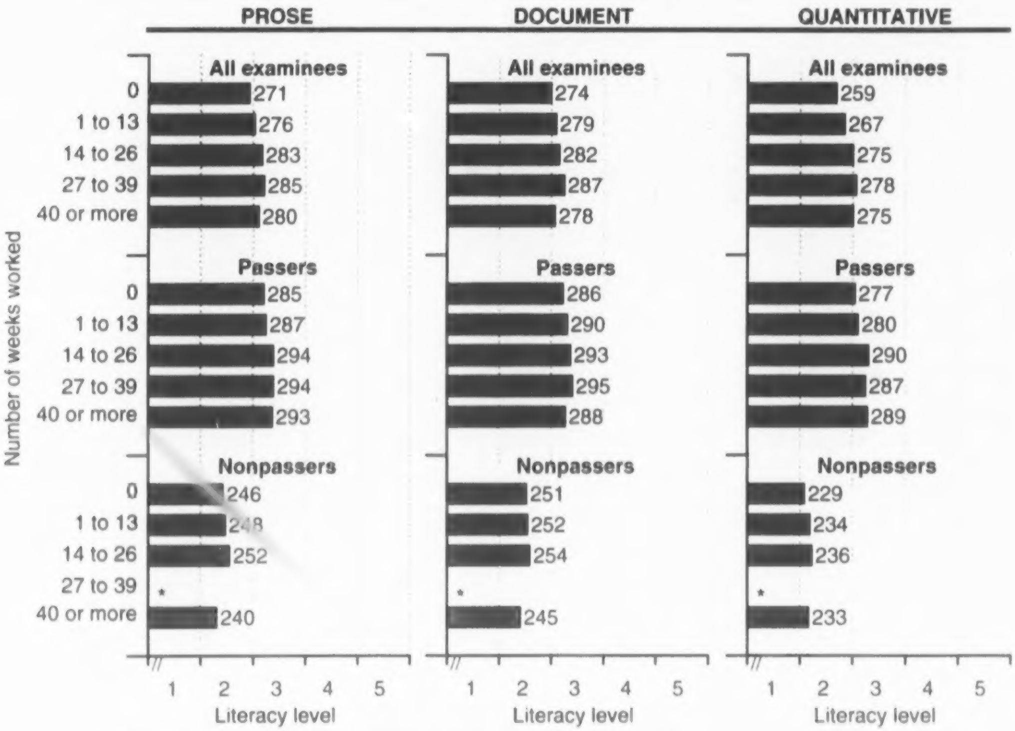
Weeks worked for pay	Percent
0 weeks	27 (1.1)
1 to 13 weeks	15 (0.7)
14 to 26 weeks	11 (0.7)
27 to 39 weeks	9 (0.7)
40 weeks or more	29 (1.2)

Note: Numbers in parentheses are standard errors. Nine percent of the respondents did not provide this information.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

There appears to be a significant relationship between the number of weeks worked for pay and literacy skills among GED examinees (Figure 4.2). More specifically, examinees who had worked at least 14 weeks during the previous year had higher average prose and quantitative proficiencies than those who had not worked at all. Among those who passed the tests, as well as among those who did not, average literacy proficiencies do not vary significantly according to the number of weeks worked.

Examinees who had worked for pay for at least 14 weeks during the past year were more likely to pass the GED Tests than those who had not worked at all during that period (Table 4.4).

Figure 4.2
Average literacy proficiencies, by weeks worked for pay



* Sample size is too small to provide a reliable proficiency estimate.

Note: Level 1, 0 to 225; Level 2, 226 to 275; Level 3, 276 to 325; Level 4, 326 to 375; Level 5, 376 to 500.

Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

Table 4.4
Percentages who passed the GED Tests, by weeks worked for pay

Weeks worked for pay	Percent who passed
0 weeks	64 (1.9)
1 to 13 weeks	71 (3.1)
14 to 26 weeks	72 (2.7)
27 to 39 weeks	82 (4.0)
40 weeks or more	75 (2.0)

Note: Numbers in parentheses are standard errors.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

Number of Years of Full-Time Employment

GED examinees were asked how many years they had been employed full time. As Table 4.5 shows, almost one-third (31 percent) had never held a full-time job, and 15 percent had done so for less than a year. On the other hand, 52 percent of the examinees reported having worked full time for one year or more; one in three had worked full time for four or more years.

Table 4.5
Percentages of GED examinees, by years of full-time employment

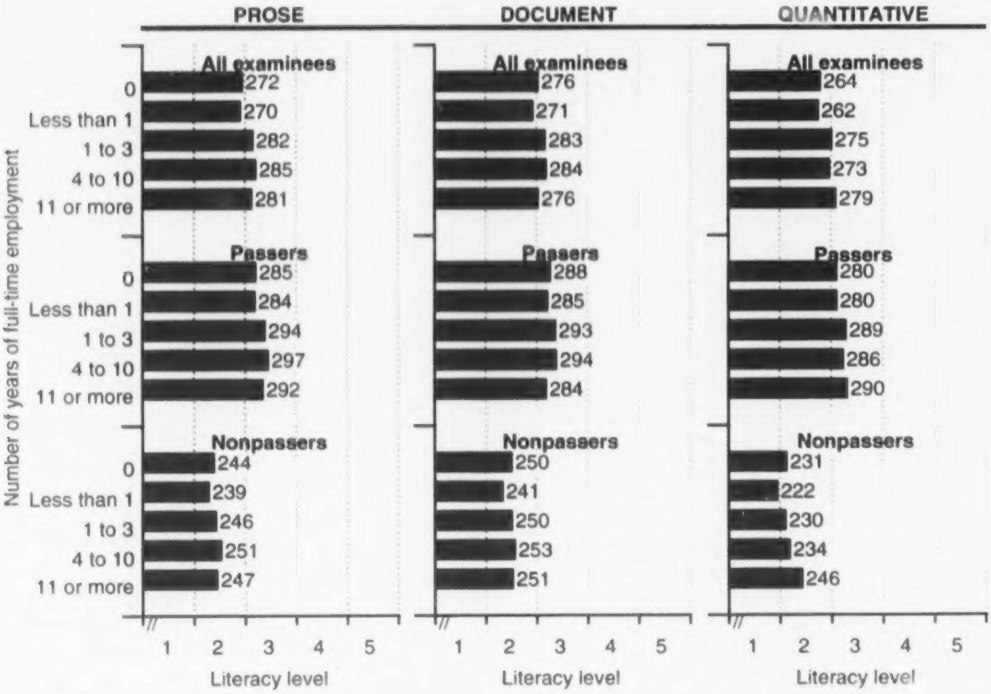
Years of full-time employment	Percent
None	31 (1.4)
Less than 1 year	15 (0.9)
1 to 3 years	19 (1.0)
4 to 10 years	19 (1.0)
11 or more years	14 (1.0)

Note: Numbers in parentheses are standard errors. Two percent of the respondents did not provide this information.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

On the prose and quantitative literacy scales, examinees with at least one year of full-time employment experience outperformed those with less experience (Figure 4.3). The average document proficiencies of individuals who had worked for various numbers of years were not statistically different, however.

On the prose and quantitative literacy scales, GED passers with at least one year of full-time work experience outperformed those with no such experience. Once again, no statistically significant differences in performance were found on the document scale. Among nonpassers, there were no statisti-

Figure 4.3
Average literacy proficiencies, by years of full-time employment



Note: Level 1, 0 to 225; Level 2, 226 to 275; Level 3, 276 to 325; Level 4, 326 to 375; Level 5, 376 to 500.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

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cally significant differences in average literacy proficiencies among those with various amounts of full-time work experience.

Although individuals with at least one year of full-time employment experience appear to be more likely to pass the GED Tests than individuals with less experience, the differences among the groups are not statistically significant (Table 4.6).

Table 4.6
Percentages who passed the GED Tests, by years of full-time employment

Years of full-time employment	Percent who passed
None	68 (1.9)
Less than 1 year	69 (3.7)
1 to 3 years	76 (2.9)
4 to 10 years	75 (2.4)
11 or more years	75 (3.4)

Note: Numbers in parentheses are standard errors.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

Weekly Wages

GED examinees who had worked in the past 12 months were asked to report their average weekly wage or salary, before deductions. Nearly four out of ten reported that their wages were less than $200 a week (Table 4.7). One out of four had wages of $200 to $500 a week, and only 3 percent earned more than $500 a week.

One-third of the examinees who reported having worked in the past year did not report their wages. Given the relatively high percentages of GED examinees who were unemployed or out of the labor force, it seems plausible that many of the individuals who declined to provide wage information were not working at the time of the study.

Readers also should note that, as reported earlier in this chapter, only 27 percent of the GED test takers were working full time the week before the survey. Because wages typically depend on the number of hours worked, the high percentage of GED examinees who reported low wages may be explained at least partly by the fact that so few were working full time.

Table 4.7
Percentages of GED examinees, by weekly wages

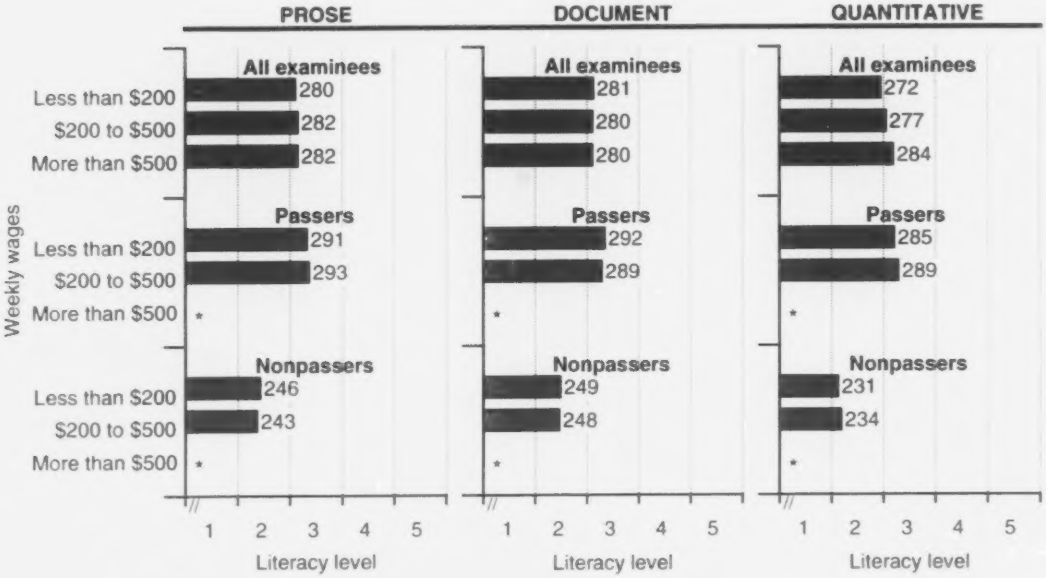
Weekly wages	Percent
Less than $200	39 (1.0)
$200 to $500	25 (0.9)
More than $500	3 (0.4)

Note: Numbers in parentheses are standard errors. Thirty-four percent of the respondents did not provide this information.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

GED examinees with low weekly earnings (less than $200 per week) performed as well in the literacy assessment, on average, as those with higher wages (Figure 4.4). Although it may appear that average quantitative proficiencies rise as examinees' wages increase, the differences among the groups are not statistically significant.

As Table 4.8 shows, individuals with the lowest weekly wages (75 percent) were as likely to pass the GED Tests as examinees with higher wages (78 percent).

Figure 4.4
Average literacy proficiencies, by weekly wages



* Sample size is too small to provide a reliable proficiency estimate.

Note: Level 1, 0 to 225; Level 2, 226 to 275; Level 3, 276 to 325; Level 4, 326 to 375; Level 5, 376 to 500.

Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

Table 4.8
Percentages who passed the GED Tests, by weekly wages

Weekly wages	Percent who passed
Less than $200	75 (2.2)
$200 to $500	78 (1.8)
More than $500	78 (5.7)

Note: Numbers in parentheses are standard errors.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

Annual Household Income

When GED test takers were asked to report their annual household income for the year before the survey, 2 percent said they had no such income (Table 4.9). Another 14 percent reported that they did not know their annual household income. One-quarter indicated that their income was less than $10,000, while 21 percent reported incomes between $10,000 and $19,999. Another 21 percent of the GED test takers reported household incomes between $20,000 and $39,999, and 18 percent reported incomes of $40,000 or more.

It is important to bear in mind that GED examinees live in many different types of households, and this helps to explain their varying incomes. Some examinees live with their parents, some live with a spouse or other family members, and some live alone.[3]

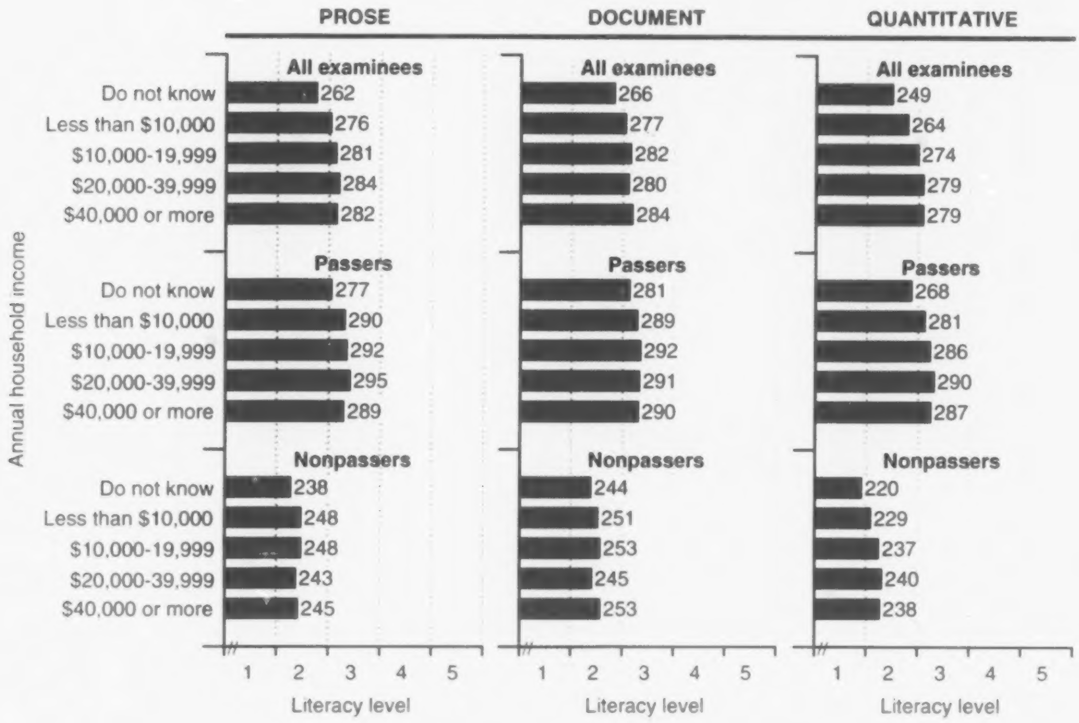
Table 4.9
Percentages of GED examinees, by annual household income

Annual household income	Percent
Do not know	14 (0.7)
No income	2 (0.3)
Less than $10,000	25 (1.0)
$10,000 to $19,999	21 (0.9)
$20,000 to $39,999	21 (1.0)
$40,000 or more	18 (1.1)

Note: Numbers in parentheses are standard errors. Percentages may not sum to 100 due to rounding error.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

Examinees with annual household incomes of at least $20,000 per year had higher average prose and quantitative literacy scores than those who reported incomes less than $10,000 (Figure 4.5). Individuals who did not know their annual household income displayed lower literacy proficiencies, on average, than those who reported various levels of income.

Figure 4.5
Average literacy proficiencies, by annual household income



Note: Level 1, 0 to 225; Level 2, 226 to 275; Level 3, 276 to 325; Level 4, 326 to 375; Level 5, 376 to 500.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

GED passing rates also vary according to level of household income. With one exception, the higher the candidate's annual income, the greater his or her likelihood of passing the GED Tests (Table 4.10).

Table 4.10
Percentages who passed the GED Tests, by annual household income

Annual household income	Percent who passed
Do not know	60 (3.9)
No income	44 (7.2)
Less than $10,000	66 (2.4)
$10,000 to $19,999	75 (1.9)
$20,000 to $39,999	78 (2.0)
$40,000 or more	83 (2.0)

Note: Numbers in parentheses are standard errors.
Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

For example, three-quarters of the individuals who reported annual household incomes of $10,000 to $19,999 passed the tests, compared with only 66 percent of those with annual earnings of less than $10,000. The exception is that there is no significant difference in passing rates between examinees with annual incomes of $10,000 to $19,999 and those with incomes of $20,000 to $39,999.

Endnotes

[1] National Center on Education and the Economy. 1990, June. *America's choice: High skills or low wages! The report of the Commission on the Skills of the American Workforce*. Berlin, G. and A. Sum. *Toward a more perfect union*. New York, NY: Ford Foundation. Barton, P. and I. Kirsch. 1990, July. *Workplace competencies: The need to improve literacy and employment readiness*. Washington, D.C.: U.S. Department of Education, Office of Educational Research and Improvement. Carnevale, A. J. and L. J. Gainer. 1989. *The learning enterprise*. Washington, D.C.: U.S. Department of Labor, Employment and Training Division.

[2] Carnevale, A. J., and L. J. Gainer. 1989. *The learning enterprise*. Washington, D.C.: U.S. Department of Labor, Employment and Training Administration.

[3] Hayes, E. and J. Baldwin. 1993. The gender gap: Women and men who take the GED Tests. *GED profiles: Adults in transition*, 6. Washington, D.C.: American Council on Education.

Part Five:
Construct Validity of the GED Tests and the NALS Scales

To examine the relationships between the five GED Tests and the three NALS proficiency scales, a series of covariance structure models[1] was specified, and confirmatory factor analysis methods were applied. Covariance structure models attempt to explain the relationships among a set of measured, or observed, variables—e.g., test scores—in terms of a smaller number of latent, or unobserved, variables, or factors.[2] These models assume that the pattern or structure found in the covariance matrix of observed variables was generated by the unobserved latent variables. Confirmatory factor analysis permits the researcher to specify and compare alternate models of factor structure for tests and thus to compare alternative explanations for the underlying factors. Thus, it is possible to specify a model in terms of which factors may be correlated, which observed measures are affected by a common factor, and which observed measures are affected by a unique factor. Statistical tests can be performed to determine whether the sample data are consistent with the specified models.

The results presented here provide evidence about the construct validity of the GED Tests and the NALS scales. An important component of construct validity is the demonstration of discriminant validity. That is, tests which purport to measure different constructs should demonstrate significantly less than perfect inter-construct correlations. In this part of the report, two separate instruments were analyzed: the battery of five GED Tests and the three NALS scales. By comparing the test scores of a national sample of GED test takers on these two instruments, it is possible to examine what both instruments measure in common, as well as what is uniquely measured by each, thus enhancing the meaning of performance on both. This approach is consistent with Messick's view that "validation is essentially a matter of making the most reasonable case to guide both current use of the test and current research to advance understanding of what the test scores mean."[3]

The strategy used in these analyses supplements the classical factorial discriminant validity approach[4] by using structural equation models to estimate a variance component decomposition of tests and scales. Statistics associated with the models were estimated by the computer program LISREL 8.[5] A major advantage of LISREL estimation for the purposes of the current study is that it allows simultaneous estimation of both general factors and specific, or unique, factors defined by the five GED Tests and the three NALS scales. Because it can partition variance into independent components, the relative importance of the general factor component and the unique test or scale components can be compared. Another advantage to LISREL is that it provides estimates of true-score correlations—that is, correlations between observed measures which have been corrected for attenuation due to measurement errors. For a more complete discussion of these procedures, see *The Technical Report on the GED-NALS Comparison Study*.[6]

For the NALS scales, the literacy tasks were split into odd-even item parcels, or testlets, within each scale. For the GED Tests, the multiple-choice items from each of the five tests similarly were split into odd-even item parcels. The essay portion of the Writing Skills Test was excluded from the analyses because it was not suited to these procedures.[7] Each member of an odd-even pair is hypothesized to identify a separate first order test factor or scale factor.

A series of four factor models was specified and tested for goodness of fit. Model 1 is a first order factor model which assumes that a single factor underlies the observed correlations among the tests. This model represents a baseline against which to compare other models. Model 2 is a first order factor model with eight factors, five defined by the GED test content areas and three defined by the NALS literacy scales. Model 2 provides estimates of the true-score correlations among the tests and scales, both within and across the GED and NALS instruments (Table 5.1). True-score correlations have been corrected for attenuation due to measurement error.

Model 3 is a higher order factor model which defines two separate higher order factors—one for the GED Tests and one for the NALS scales. The analysis of data based on Model 3 estimates the "true" correlation between the general factor underlying the GED Tests and its counterpart underlying the NALS scales.

Model 4 is a higher order model which defines a single higher order factor as sharing variance in observed measures from both the GED and the NALS instruments. This model provides information on the relationships between each of the GED Tests and NALS scales and on the nature of the general factor common to both instruments. It also provides estimates of psychometric properties of the individual tests and scales. These psychometric properties include components of variance decomposition that partition each subscale's total variance into various percentages due to a common higher order factor, to each test- or scale-specific factor, and to measurement error (Table 5.2).

Correlations among the GED Tests

The estimated true-score correlations (or correlations that have been corrected for measurement error) among the GED Tests of Social Studies, Science, and Interpreting Literature and the Arts range from .86 to .92, indicating that these three tests are highly interrelated (Table 5.1). It is possible that they measure an overlapping set of skills and present similar cognitive demands. All three tests include reading passages followed by a series of multiple-choice questions. All require a certain amount of general knowledge, as well as verbal and analytical reasoning skills, which typically are developed by reading and answering questions based on written materials.

Further, the distribution of performance on the Social Studies, Science, and Interpreting Literature and the Arts Tests is similar. These tests are, on average, easier for GED examinees than the Writing Skills Test and the Mathematics Test. That is, examinees earn higher average standard scores on these three tests than on the Writing Skills and Mathematics Tests (see Appendix A).

Table 5.1
Correlations among the GED Tests and the NALS scales, corrected for attenuation, based on Model 2

	GED Tests					NALS Scales		
	Writing Skills	Social Studies	Science	Literature/ Arts	Math	Prose	Doc.	Quant.
GED Tests								
Writing Skills*	1.00							
Social Studies	0.77	1.00						
Science	0.77	0.92	1.00					
Literature/Arts	0.79	0.91	0.86	1.00				
Mathematics	0.68	0.77	0.80	0.67	1.00			
NALS scales								
Prose	0.62	0.70	0.67	0.71	0.60	1.00		
Document	0.56	0.56	0.56	0.57	0.56	0.81	1.00	
Quantitative	0.59	0.69	0.70	0.61	0.81	0.82	0.77	1.00

*Only multiple-choice questions (Part One) were used in these analyses.
Source: American Council on Education and Educational Testing Service. GED-NALS Comparison Study, 1993.

Table 5.1 shows that all the correlations with the Mathematics Test and the Writing Skills Test are lower, ranging from .67 to .80. The Mathematics and Writing Skills Tests also use multiple-choice questions, but each seems to measure a somewhat different set of knowledge and skills from those measured by the other tests. The multiple-choice part of the Writing Skills Test, for example, contains one or more paragraphs followed by a directive asking test takers to determine what corrections, if any, should be made to the sentence structure, usage, and mechanics. Test takers are not required to answer comprehension-type questions as they are on the Science, Social Studies, and Interpreting Literature and the Arts Tests. Similarly, the mathematics test requires examinees to know and apply mathematical principles and concepts such as algebra, geometry, and arithmetic to word problems based on graphic or textual information.

Correlations among the NALS Scales

Previous studies of the NALS data have found correlations ranging from .90 to .95 among the prose, document, and quantitative literacy scales. Correlations this high suggest the presence of a large dominant factor. As Table 5.1 shows, the true-score correlations among the adult literacy scales in the GED-NALS study are significantly lower (.77 to .82). The primary reason for this finding is that the sample of GED examinees assessed in the GED-NALS study is less heterogeneous than the population assessed in the National Adult Literacy Survey, which included American adults age 16 and older.

The national adult population includes a wide spectrum of ability, including individuals who are very able in every respect and those who have disabilities that restrict their capacity to perform cognitive tasks. Some members of the NALS sample were not able to respond to any of the literacy tasks because of limited English language skills. Having such a diverse population in the NALS sample results in higher correlations among the literacy scales. Further, certain aspects of the literacy tasks themselves—in particular, the inclusion of prose, document, and quantitative tasks that are based on the same document or reading material—are also known to increase the inter-scale correlations. The GED-NALS study results indicate that when the sample has a more restricted range of ability, the correlations among the literacy scales will be lower.

The magnitude of the correlations among the prose, document, and quantitative literacy scales indicates that all three scales rank order the population in much the same way, but does not necessarily indicate that they are each measuring the same skills and knowledge. If each of the three literacy scales were measuring the same domain, one would expect to find similar patterns of results for various subgroups. This is not the case. Rather, for any given subpopulation, literacy performance tends to vary across the three scales. This suggests that even though the inter-scale correlations are high, the scales are measuring different things in different subpopulations.

The strongest true-score correlation across the two instruments was between the GED Mathematics Test and the NALS quantitative literacy scale (.81). The weakest correlations occurred between the NALS document scale and all five GED Tests (.56 to .57).

The next section presents analyses of the higher order relationships among the five GED Tests and the three literacy scales. These analyses make it possible to explore further how much variance these two sets of measures have in common and how much is unique to each GED test and NALS scale.

Higher Order Relationships between the GED Tests and the NALS Scales

Confirmatory factor analysis procedures were used to estimate the interconstruct correlation between the general higher order factor underlying the five GED Tests and the general higher order factor underlying the three NALS scales. The general GED factor and the general NALS factor are strongly related, with a correlation of .78. This magnitude of correlation indicates that the amount of overlap between what the GED Tests and the NALS instruments measure is about 60 percent. Or, stated differently, about 60 percent of the variability in performance on the GED Tests is shared with performance on the NALS literacy scales.[8]

To estimate the percentage of each test's total variance that is due to various components—a common higher order factor, each test- or scale-specific factor, and error—a model with a single factor underlying both the GED and the NALS batteries was specified and tested. As shown in Table 5.2, the general common factor underlying both batteries is primarily defined by the GED Tests of Social Studies, Science, and Interpreting Literature and the Arts. These tests share between 84 and 92 percent of their total reliable variance[9] with the general common factor. In contrast, the GED Writing Skills Test and Mathematics Test share only about 67 percent of their reliable variance with the general factor underlying both batteries. Thus, from the GED Tests, the general factor is defined primarily by skills measured by the Tests of Social Studies, Science, and Interpreting Literature and the Arts. The skills common to these three tests include the ability to understand, analyze, and interpret written information and to apply fundamental principles and concepts.

Among the NALS literacy scales, the prose and quantitative scales share about 60 percent of their reliable variance with the general common factor. In contrast, only about 40 percent of the document scale's reliable variance is shared with the general common factor underlying both batteries. From the NALS scales, the general factor is defined primarily by skills measured by the prose and quantitative scales. The skills common to these two scales include the ability to understand and use written information and to analyze information embedded in printed materials.

Table 5.2
Variance decomposition of the GED Tests and NALS scales due to a general common factor, test-specific factors, and error components, based on Model 4 (in percentages)

	Reliable variance				Percent of reliable variance due to:	
Scale Parcels	General common factor (A)	Test-specific factors (B)	Unreliable (error) variance (C)	Reliability (D=A+B)	General common factor (A/D)	Test-specific factors (B/D)
GED Tests						
Writing (odd)*	46	23	31	69	67	33
Writing (even)*	57	28	15	85	67	33
Social Studies (odd)	80	07	13	87	92	8
Social Studies (even)	76	07	17	83	92	8
Science (odd)	73	09	18	82	89	11
Science (even)	73	09	18	82	89	11
Literature (odd)	67	13	20	80	84	16
Literature (even)	69	13	18	82	84	16
Math (odd)	53	26	21	79	67	33
Math (even)	57	28	15	85	67	33
NALS scales						
Prose (odd)	38	26	36	64	59	41
Prose (even)	34	24	42	58	59	41
Document (odd)	27	35	38	62	44	56
Document (even)	23	30	47	53	43	57
Quantitative (odd)	35	24	41	59	59	41
Quantitative (even)	37	25	38	62	60	40

*Only multiple-choice questions (Part One) were used in these analyses.

Source: American Council on Education and Educational Testing Service. GED-NALS Comparison Study, 1993.

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Based on these results, the general higher order factor common to both the GED Tests and the NALS scales appears to represent the ability to comprehend, analyze, and interpret written information and to apply knowledge, principles, and concepts. One might refer to this general set of skills as verbal comprehension and reasoning.

Although the GED Tests and the NALS scales share 60 percent of their reliable variance, approximately 40 percent of their reliable variance is unique, with the different subtests and scales contributing various amounts. As shown in Table 5.2, 33 percent of the reliable variance on both the GED Mathematics Test and the multiple-choice portion of the Writing Skills Test is unrelated to the general common verbal comprehension and reasoning factor. Thus, it appears that these tests are measuring more than just verbal comprehension and reasoning. Much of the multiple-choice portion of the Writing Skills Test, for example, focuses on sentence structure, usage, and mechanics rather than on comprehension and reasoning. The GED Mathematics Test involves the application of specific knowledge and skills, such as algebra and geometry, that are independent of the general verbal comprehension and reasoning factor.

Among the NALS scales, document literacy appears to have the most scale-specific, or unique, reliable variance. As Table 5.2 shows, about 56 percent of this scale's reliable variance is independent of the general factor. This is consistent with the finding that the document scale had the lowest correlations with the GED Tests, ranging from .56 to .57 (Table 5.1). Part of this unique variance may be due to the fact that documents are different in structure from prose materials or texts such as stories or newspaper and magazine articles, which contain paragraphs of connected discourse. Another plausible explanation for this scale's unique variance is that document literacy may be more sensitive to experience and practice and less sensitive to formal schooling. Some of the unique variance may also be due to the fact that the literacy scales use an open-ended format, while the GED Tests, except for the written essay, use multiple-choice items.

Both the prose and quantitative scales contain about 40 percent unique variance. Again, these scales share a large percentage of variance with the general verbal comprehension and reasoning factor, but they also measure some unique skills. It may be that the open-ended tasks capture some unique aspects of comprehension and reasoning. On the quantitative scale, for example, respondents are required to set up various arithmetic problems and solve them using information contained in a particular document. Tasks include balancing a checkbook, computing gas mileage for a trip, and determining how much interest would be paid based on a loan advertisement. In contrast, on the GED Mathematics Test, most of the questions provide all the necessary information in the stem of the question or in graphic displays. Examinees usually do not have to search through a document to identify the quantities and perform the needed operation.

Despite the considerable degree of overlap, the GED Tests and the NALS instruments also measure somewhat different things. For example, in addition to verbal comprehension and reasoning, the GED Tests appear to tap unique dimensions of writing mechanics and mathematics, while the NALS scales appear to tap unique dimensions of document literacy.

Error Variance and Score Reliability for the GED Tests and the NALS Scales

The percentage of error variance for the NALS scales is about twice that for the GED Tests, resulting in lower reliability estimates. These results are not surprising for several reasons. First, the GED Tests are designed to be more closely targeted to the ability level of the GED sample than are the NALS assessment materials. Moreover, the GED Tests are designed to produce individual scores that can be used to make pass/fail decisions within the ability range defined by the GED examinee and high school senior populations. The NALS scales, on the other hand, are designed to estimate group rather than individual proficiencies. To meet the goal of producing reliable individual scores, the GED Tests contain about twice as many items per scale or subtest as do the NALS literacy scales. This is most likely the primary reason for the differential error variance and for the general factor being driven so much by a subset of the GED Tests.

Summary

In general, the design specifications of the GED battery and the NALS scales suggest that they should tap many similar skills. The emphases on "real world" contexts for test questions and literacy exercises and on verbal comprehension and reasoning seem to be shared by both instruments. The NALS scales probably assume less prior content knowledge. While the GED Tests provide questions using contexts familiar in daily life, they still require some general knowledge of concepts and principles that traditionally are learned in high school.

The general factor measured by the five GED Tests and the general factor underlying the three NALS scales are strongly related, with a correlation of .78. This magnitude of correlation indicates that the amount of overlap between what the GED Tests and the NALS instruments measure is about 60 percent. The general higher order factor common to both instruments appears to represent verbal comprehension and reasoning. However, the GED Tests also appear to tap unique dimensions of writing mechanics and mathematics, while the NALS scales also appear to tap unique dimensions of document literacy.

Endnotes

[1] Joreskog, K. G. and D. Sorbom. 1979. *Advances in factor analysis and structural equation models*. Cambridge, MA: Abt Books.

[2] Long, J. S. 1983. *Covariance structure models: An introduction to LISREL*. Sage University Paper series on Quantitative Applications in the Social Sciences, Series No. 07-034. Beverly Hills: Sage Publications.

[3] Messick, S. 1989. Validity. In R.L. Linn, ed. *Educational measurement*, 3rd ed. New York: American Council on Education and Macmillan Publishing Company.

[4] Cronbach, L. J. 1984. *Essentials of psychological testing*, 4th ed. New York: Harper & Row. Thorndike, R. L. 1982. *Applied psychometrics*. Boston: Houghton Mifflin Co.

[5] Joreskog, K. G. and D. Sorbom. 1993. *LISREL 8: Structural equation modeling with the Simplis command language*. Hillsdale, NJ: Lawrence Erlbaum Associates.

[6] In press.

[7] Although GED standard scores were used to determine candidates' pass or fail status and for most other analyses presented throughout this report, item-level data were required for the construct validity analyses. Analyses were based on multiple-item parcel scores for the multiple-choice items from the GED Tests and for the constructed response items from the NALS. Thus, the GED Writing Skills Test results reported in this chapter are based only on Part One, the multiple-choice items which measure a person's ability to edit sentences and correct errors within the context of one or more paragraphs; the single score from the written essay component of the test was excluded.

[8] Squaring a correlation yields an estimate of the percentage of shared variance.

[9] Total reliable variance is the sum of systematic variance due to the general factor and to test- or scale-specific factors. It excludes variance due to measurement error.

Part Six: Findings, Implications, and Recommendations

In Part Six of this report, we describe and discuss significant findings concerning the literacy proficiencies of GED graduates, including the similarities in literacy skills among GED passers, the disparities in literacy skills among adults who take the tests, and the overlap in verbal comprehension and reasoning skills measured by the GED Tests and the NALS scales. We then discuss the implications of the literacy skills of GED graduates when compared with those of traditional high school graduates, especially in terms of their adequacy in achieving our nation's educational goals in adult literacy. And finally, we offer recommendations for further study.

Findings from this study indicate that passing the GED Tests not only certifies the attainment of high-school level academic skills and knowledge, but also signifies, on average, the ability to demonstrate prose, document, and quantitative literacy skills at levels widely viewed as necessary for social and economic advancement and for exercising the rights and responsibilities of citizenship (Level 3 or higher). Most GED graduates (57 to 67 percent, depending on the literacy scale) demonstrated skills at Levels 3 or higher. The skills associated with Level 3 performance include, for example, the ability to integrate information from lengthy texts and to make low-level inferences about such information.

This study also found disparity in the levels of literacy skills among adults who take the GED Tests. This finding suggests the need for very different kinds of educational programs and services for adult learners with different levels of skills. For example, adults who demonstrate lower levels of literacy may require more focused programs and longer periods of study to prepare for the GED Tests than those with stronger skills. Many of these lower literate adults seek formal adult education classes in order to develop the skills needed to pass the GED Tests. By contrast, adults who demonstrate higher levels of literacy may require little, if any, formal preparation or study before taking the GED Tests. These more literate adults may be encouraged to take the GED Tests by others or referred to the tests through a screening process. Many can determine their own readiness for the tests by first taking the Official GED Practice Tests.

On the other hand, some adults seek to take the GED Tests before they have developed the skills needed to pass. Adult educators should consider ways to provide suitable feedback to individuals who are planning to take the tests so that they understand the skill levels needed and can take advantage of opportunities to develop these skills. Many adults who do not complete high school may have had limited opportunities to develop their academic and literacy skills during formal schooling. These limited opportunities may be the result of inadequate teaching, inferior instructional materials, a lack of educational resources, and poor quality schools. For adults who are unsure if they have developed the skills needed to pass the tests, academic counseling and screening may be helpful.

Construct validity findings from this study show that the GED Tests and the NALS scales have a considerable amount of overlap in measuring verbal comprehension and reasoning skills, such as the ability to understand, analyze, interpret, and evaluate written information and to apply fundamental principles and concepts. However, the GED Tests also measure skills and knowledge distinct from those measured by the NALS scales, just as the NALS scales measure skills distinct from those measured by the GED Tests. The GED Tests measure and certify the attainment of academic skills and knowledge associated with high school completion, while the NALS literacy scales measure skills needed to accomplish diverse tasks involving printed or written information. Because literacy tasks represent an integral part of what is taught in high school, it is not surprising that performance on the GED Tests correlates strongly with performance on the NALS instruments.

GED and high school graduates may be expected to demonstrate similar levels of literacy. Because current GED passing standards are based on the GED test performance of the top 70 percent of a recent national sample of graduating high school seniors, there is a direct correspondence between the knowledge and skill levels required to pass the GED Tests and those shown by recent high school graduates. Indeed, the NALS study of 1992 found no difference in the literacy skills of adults whose highest educational credential was either the GED or the high school diploma. Thus, if high school graduates demonstrate *higher* literacy and academic skills, so must GED graduates. Alternatively, if high school graduates demonstrate *lower* literacy and academic skills, then so must GED graduates.

The correspondence between performance of high school graduates and standards for passing the GED Tests leads to a notable observation. Although most GED passers in the GED-NALS Comparison Study demonstrated moderate to high levels of literacy, between one-third to two-fifths (33 to 43 percent, depending on the scale) demonstrated lower literacy skills in Levels 1 and 2. If one-third to two-fifths of GED graduates demonstrated lower literacy skills, it is reasonable to expect that at least one-third of high school graduates also will demonstrate these lower levels of literacy skills.

This observation raises a question worthy of public policy debate: Should we not be concerned that an estimated one-third of high school graduates demonstrate literacy skills in Levels 1 and 2? If the high school diploma is to continue to function as a certification tool that indicates the attainment of skills and knowledge needed for citizenship and for educational, social, and economic advancement, then high school programs must be strengthened and targeted more effectively to all students. Improved curricula, instruction, counseling, and services directed to students from diverse cultural and educational backgrounds may influence more students to remain in school and may also lead to improved academic achievement among the nation's high school graduates. In turn, higher levels of academic achievement among high school graduates will require higher standards for GED graduates, leading to higher levels of literacy in both groups.

Recent reports from the U.S. Department of Education (1995)[1] indicate that the performance of high school students has improved in the past decade. More students are taking more rigorous academic courses and are achieving higher scores on some measures of educational progress. If these trends continue for all students and become more pervasive across the nation, then future high school graduates *as a group* may demonstrate stronger literacy and academic skills. But national trends toward improving educational performance at the high school level remain uneven.

In considering the implications of the results presented in this report, it is important to distinguish between *credentialing and certifying* high school-level learning, on the one hand, and *building and developing* high school-level skills, on the other. While the GED Tests provide a valuable tool for credentialing and certification, the nation's literacy problems cannot be solved by credentialing and certifying strategies alone. The nation needs strong education programs for building and developing the skills and abilities of adults who do not develop them in traditional schooling or on their own. Such efforts require adequate resources to train staff, encourage instructional and programmatic innovation, and design effective curricula and teaching strategies. In the current climate of limited funding for adult education, these are formidable challenges which must be pursued with special vigor.

We recommend that further studies be undertaken to explore the implications of the findings of the GED-NALS Comparison Study for policy makers in k-12 education as well as in adult education and literacy. One such study should address the nature of the core set of literacy and academic skills and knowledge needed to certify high school graduates in the next decade for citizenship, employment, and further education. Other studies should examine the instructional and learning strategies needed to improve the academic and literacy skills of adults with limited literacy proficiencies who seek to take the GED Tests.

Areas for further study include ways to develop more effective programs for academic counseling, for diagnosing educational needs, and for increasing examinees' readiness for testing. Specific studies should examine how to improve the literacy and academic abilities of those who have visual impairments or other conditions that interfere with the development of literacy and other skills associated with high school completion. We also recommend studies that document the levels of participation of high school and GED graduates in educational and job training programs and assess their performance in such programs. Information is needed about the long-term outcomes of receiving GED credentials in terms of further education, employment, and personal satisfaction.

Endnotes

[1] National Center for Education Statistics. 1995. *Findings from* The Condition of Education 1994, *No. 1: High School Students Ten Years After* A Nation At Risk. Office of Educational Research and Improvement. Washington, D.C.:U.S. Department of Education.

Appendix A:
Methods

Survey Administration Procedures

Data collection for the GED-NALS Comparison Study was conducted at official GED Testing Centers from January through August 1993. A national sample of 1,573 GED examinees participated in the study (see Sample discussion, below, for further details).

Study participants were asked to complete the English-language version of the five GED Tests, as well as the GED-NALS Comparison Study background questionnaire and booklet of literacy assessment tasks, within approximately eight weeks. The GED Tests were administered following standard test administration procedures, as described in the GED *Examiner's Manual.*[1] The GED-NALS Comparison Study background questionnaire and booklets of NALS literacy tasks were administered by GED examiners in one-on-one interviews. Self-administered audio tapes and independent study materials were used to train the GED examiners and chief examiners.

Respondents and examiners were each paid an incentive fee of $10 for participating in the study. Monetary incentives have been found to increase participation in previous literacy assessments.[2]

Educational Testing Service scored the NALS assessments, and the GED Testing Service scored the GED Tests. Staff at Educational Testing Service merged the two data sets, and staff from both institutions participated in data analysis, evaluation, and report writing.

Sample

The target sample of testing centers for the study included 200 official GED Testing Centers in the United States that participated in the National GED Candidate Survey in Fall 1989.[3] Many centers from this original sample were unable to participate in the GED-NALS study because they were no longer in operation, because their testing volume was too small to provide the required minimum of 15 test takers during the period of the study, or for other reasons. Nonparticipating centers were replaced with centers recommended by state GED administrators as serving similar populations of GED examinees. Thus, the final national sample of centers for the GED-NALS Comparison Study is similar to that for the 1989 National Candidate Survey.

Eighty-two centers in 44 states agreed to participate in the study, and the target sample of respondents numbered 2,749. In all, 1,591 examinees were tested in 65 centers in 37 states (Table A.1). Of these, 1,573 completed interviews; that is, the examinees took both the GED test battery and the adult literacy assessment instruments.

Examinees who took the GED Tests in jurisdictions outside the United States, those who took the GED Tests in languages other than English, and those who required more than eight weeks to complete all five GED Tests were excluded from the sample. Thus, the study results generalize to GED examinees in the United States who completed an English-language version of the GED Tests within a period of approximately eight weeks.

Table A.1
Number of study sites and interviews, by region

Region	Number of sites	Number of interviews
South	23	540 (34%)
Midwest	14	621 (39%)
West	13	262 (16%)
Northeast	15	168 (11%)
TOTAL	65	1,591 (100%)

Source: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993.

Based on comparisons with findings from the GED 1989 National Candidate Survey (NCS) and the *GED 1993 Statistical Report*,[3] the GED-NALS sample represents the GED population very well in terms of important characteristics such as age, sex, race, disability status, household income, and country of birth (Table A.2).

Table A.2

Percentages of GED-NALS sample and other samples in various population subgroups

	Percentage of GED-NALS sample	Percentage of 1989 NCS sample	Percentage of 1993 GED population
Total	100	100	100
Sex			
Male	42	44	—
Female	58	56	—
Age			
17 or younger	19	11	9
18 to 19	24	28	23
20 to 24	20	22	27
25 to 34	20	22	24
35 to 44	11	10	—
45 to 54	4	4	17*
55 or older	2	1	—
Race/ethnicity			
White	64	70	—
African American	21	14	—
Hispanic	10	11	—
Asian/Pacific Islander	2	2	—
Other	3	2	—
Disability status	8	7	—
Country of birth			
U.S.	93	91	—
Other	7	9	—
Annual household income**			
<$10,000	31	32	—
$10–19,999	24	26	—
$20–29,999	14	18	—
$30–39,999	11	11	—
$40,000 or more	20	13	—
Region***			
Northeast	11	19	21
Midwest	39	23	21
South	34	38	39
West	16	20	20

* Percent of those age 35 and older.

** Not adjusted for inflation.

***In the GED-NALS study, regions were defined according to categories used by the U.S. Bureau of the Census. See Appendix B for details. In the other studies, regions were defined according to categories used by the U.S. Department of Education's Adult Education Division, which classifies DE, MD, and Washington, D.C. as part of the Northeast.

— Data are unavailable.

Sources: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993; 1989 National Candidate Survey and *GED 1993 Statistical Report*, American Council on Education.

In addition, the GED performance results for the study sample are similar to those from other national samples of GED test takers, as indicated by average pass rates and average GED standard scores (Table A.3).

Table A.3
Performance of GED examinees in different studies

	GED-NALS sample	1989 Performance Study sample	1993 GED population*
Total	100	100	100
GED pass rates			
Passed	72	—	72
Did not pass	28	—	28
GED test performance**			
Writing Skills	48 (7.3)	46 (7.4)	—
Social Studies	51 (8.6)	50 (8.5)	—
Science	51 (7.9)	50 (8.2)	—
Interpreting Lit./Arts	51 (9.2)	50 (9.4)	—
Mathematics	47 (8.4)	46 (7.9)	—
Total average	49 (7.5)	48	—

* U.S. and territories.
** In standard scores.
— Data are unavailable.
Notes: Standard deviations are reported in parentheses, where available.
Sources: American Council on Education and Educational Testing Service, GED-NALS Comparison Study, 1993; 1989 GED Test Performance Study and *GED 1993 Statistical Report*, American Council on Education.

There are some differences in performance among the various study samples, however. For example, the average scores of the GED-NALS sample are about one-tenth of a standard deviation higher than those of participants in the 1989 Performance Study.[5] One possible explanation for this finding is that examinees who participated in the GED-NALS study were required to take all five GED Tests within an eight-week period. In the 1989 Performance Study, on the other hand, some examinees may have taken several month—or even years—to complete all five tests. It is estimated that in any given year, about 13 percent of GED test takers require more than a single calendar year to complete the entire battery.

A few issues concerning the representativeness of the GED-NALS sample are also worth noting. Compared with GED population statistics presented in the *GED 1993 Statistical Report*, examinees from the Northeast were underrepresented in the GED-NALS study sample (11 percent versus about 19 percent); those in the Midwest states were overrepresented (39 percent versus about 23 percent); and those in the West were somewhat underrepresented (15 percent versus 20 percent).

Further, young examinees (age 17 and younger) were more highly represented in the GED-NALS sample (19 percent) than in the national population of GED test takers (9 percent). The most likely reason for this over-representation of young examinees is the time of year in which the study was administered: spring and summer. The proportion of examinees age 17 and younger in a national sample of GED examinees surveyed in Spring 1980[6] was very similar (17 percent) to the proportion in the GED-NALS sample.

Another difference is that the GED-NALS sample includes a higher percentage of African American test takers (21 percent)[7] and test takers with household incomes of $40,000 or more (20 percent) than the other comparison samples. In the 1989 study, 14 percent of the examinees were African American, and 13 percent had household incomes of $40,000 or more.

Despite these differences, the characteristics and test performance of individuals in the GED-NALS sample are sufficiently similar to those of examinees in the 1993 statistical report and those of other national samples of GED test takers to warrant confidence that the study findings are generally representative of the characteristics and literacy proficiencies of GED test takers in the United States as a whole.

GED Passing Score Requirements

Table A.4 presents the GED passing score requirements for various states and jurisdictions. Each state, province, or territory that contracts to use the GED Tests establishes its own minimum score requirements. However, the Commission on Educational Credit and Credentials requires that such score requirements be set at a standard no lower than that which would result from requiring either of the following: a minimum standard score of 40 on each test in the battery or an average standard score of at least 45 over all tests in the battery. In the United States, this minimum standard of "minimum 40 or mean 45" was met by an estimated 75 percent of the 1987 high school norm group of graduating high school seniors.

Table A.4
GED passing score requirements: Percentage of high school graduates meeting GED standard and jurisdictions requiring GED standard

Minimum GED score standard	High school graduates meeting standard*	States requiring standard
Minimum 40 or Mean 45	75%	Louisiana, Mississippi, Nebraska, Texas, Commonwealth of the Northern Mariana Islands, Republic of the Marshall Islands
Minimum 40 or Mean 50	71%	New Mexico, North Dakota
Minimum 35 and Mean 45	70%	Alabama, Alaska, Arizona, Colorado, Connecticut, Georgia, Hawaii, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Massachusetts, Michigan, Minnesota, Montana, Nevada, New Hampshire, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, Wyoming, Federated States of Micronesia, Guam, Kwajalein, Puerto Rico, Virgin Islands
Minimum 40	70%	American Samoa
Minimum 40 and Mean 45	66%	Arkansas, California, Delaware, District of Columbia, Florida, Idaho, Maryland, Missouri, New York, Oklahoma, Oregon, South Dakota, Utah, Washington, West Virginia, Panama Canal Area, Republic of Palau
Minimum of 42 on Test I, 40 on Tests 2–4, 45 on Test 5, and a total score of 225		New Jersey
Minimum 40 and Mean 50	51%	Wisconsin

* U.S. percentages are based on data from a national sample of graduating high school seniors who took all five GED Tests in Spring 1987. Jurisdictional requirements are described in the GED *Examiner's Manual*, Sections 3.8-4 and 3.8-5.
Source: American Council on Education. 1993. *GED 1993 statistical report*, p. 29.

GED Test Development and Standardization Procedures[8]

What the GED Tests Measure

The content of the English-language edition[9] of the GED Tests, introduced in 1988, corresponds to what graduating high school seniors in the United States are expected to know. These GED Tests require an essay and demand more highly developed levels of critical thinking and problem solving than previous versions. In addition, test questions reflect the many roles of adults (such as worker, family member, consumer, and citizen) and represent settings that adult examinees recognize as relevant to daily life.

The GED Tests are organized into the following five subject areas which correspond to the general framework of high school curricula: writing skills, social studies, science, interpreting literature and the arts, and mathematics. However, many skills are common across the tests. For example, the ability to read, comprehend, and analyze written material is a skill needed for all five tests. Examinees are tested on their knowledge of broad concepts and on their ability to use knowledge, information, and skills to solve problems. The GED Tests measure comprehensive, integrated skills, rather than isolated fragments of learning from individual disciplines.

Basis for Equivalence to High School Achievement

For 50 years, the developers of the GED Tests have based the claim of equivalence of the GED Tests to high school achievement on two logical foundations: (1) the tests are constructed from a representative sampling of high school curricular content and skills, and (2) GED examinees' test performance is evaluated by comparing their test scores to the demonstrated achievement of recent graduating high school seniors. The seniors' test scores provide the basis for the GED score scales and passing score requirements. The distribution of these scores is used to determine the criterion for awarding a GED credential. That is, to pass these tests GED examinees must achieve scores that surpass the achievement of about 30 percent of a national sample of high school seniors. The GED Testing Service revises and renorms the GED Tests whenever there is evidence of substantial changes in either the high school curriculum or the achievement levels of high school seniors.

Development, Selection, and Review of Questions

GED Testing Service (GEDTS) contracts with professional educators to select or write stimulus material and to write items for new operational forms of the GED Tests. These item writers must be content specialists with both teaching certification and secondary teaching experience in the disciplines for which they write items. Item writers comprise a cross-section of educators who represent the diversity of the United States population with respect to ethnic background, sex, and geographic location.

Each potential item is subjected to a multistep review process before it can be included for field testing. First, the item is reviewed for content accuracy, context representation, appropriateness for high school–level work, fairness, and general quality. Then each item is judged for accuracy, clarity, suitability, and cognitive skill level.[10] Item reviewers are drawn from a multicultural, multiracial, and geographically diverse group of content specialists.

Items that pass the content reviews are subjected to measurement and fairness reviews and are then edited for grammar, spelling, vocabulary, format, and surface errors. Items that pass this rigorous screening and revision process are then field tested through administration to GED examinees. Based on the statistical results of the examinees' performance on the field test items, GEDTS staff screen items for potential use in operational test forms. Item difficulty and discrimination analyses are used to evaluate these items for use on the operational forms of the tests.

GEDTS uses two item fairness review procedures: one is a judgmental sensitivity review of item content, which screens out material that may construed as offensive or unfair to any particular group of examinees; the other is differential item functioning (DIF) screening, a statistical procedure that analyzes items to ensure that they function similarly, rather than differentially, for all groups of examinees. Only those items that satisfy the strict content and statistical criteria—that is, they match the content specifications, pass fairness and DIF reviews, and have appropriate difficulty and discrimination values—are eligible for GED Tests forms.

Estimating the Literacy Proficiencies of GED Examinees

As previously noted, the GED Tests and the NALS literacy assessment instruments were administered in 1993 to a national sample of 1,573 GED examinees. As in the National Adult Literacy Survey, a variant of matrix sampling was used so that different GED examinees responded to different sets of literacy tasks.

As a result of this procedure, it is inappropriate to report the literacy proficiency results using summary statistics such as the number or percentage of tasks performed correctly. This is because differences in total scores among individuals in various groups might not actually reflect differences in respondents' abilities, but rather differences in the difficulty of the literacy tasks they received. Thus, unless one assumes that the sets of tasks in different assessment booklets are perfectly parallel, which they likely are not, the performance of various groups assessed cannot be directly compared using total score statistics. Furthermore, using total score statistics to estimate the average literacy proficiencies of GED test takers would not provide information about the distribution of skills within a given subpopulation.

These limitations are overcome by using item response theory (IRT) scaling, a mathematical model for estimating the probability that a particular person will respond correctly to a particular task from a specified pool of tasks in a given domain (such as prose literacy). This probability is given as a function of a single parameter characterizing the proficiency of a person in a domain and of one or more parameters characterizing the properties of the assessment tasks used to define the domain. The IRT model used in the National Adult Literacy Survey and in the GED-NALS Comparison Study is the three-parameter logistic model. In this model, the task parameters include task discrimination, task difficulty, and guessing. Because the literacy tasks were open-ended, rather than multiple choice, the guessing parameter was set to zero.

The pool of literacy tasks over which performance is modeled and the accompanying proficiency variable are referred to as a scale. Analyses within a scale generally are carried out in two steps: First, the parameters of the literacy tasks are estimated, and second, estimates of individuals' or groups' proficiencies are made with the item parameter estimates treated as fixed. Scaling the responses of GED examinees to the literacy tasks using IRT methodology enables us to report examinees' literacy proficiencies on the NALS scales. A full discussion of the statistical procedures used in this study is presented in the forthcoming technical report.

Endnotes

[1] GED Testing Service. 1993. *Examiner's manual for the Tests of General Educational Development*. Washington, D.C.: American Council on Education.

[2] National Adult Literacy Survey Technical Report. In press.

[3] Baldwin, J. 1990. GED candidates: A decade of change. *GED Profiles: Adults in transition*, 1. Washington, DC: American Council on Education.

[4] GED Testing Service. 1994. *Who took the GED Tests? The GED 1993 annual statistical report*. Washington, D.C.: American Council on Education.

[5] Baldwin, J. 1992. GED test performance of adult examinees and high school seniors. *GED profiles: Adults in transition*, 5. Washington, DC: American Council on Education.

[6] Malizio, A. G. and D. R. Whitney. 1981. *Who takes the GED Tests? A national survey of spring 1980 examinees*. Washington, D.C.: American Council on Education, GED Testing Service.

[7] More than half of African American examinees in the GED-NALS sample were from two states: Missouri and Texas.

[8] Some of the information in this section is from: Baldwin, J. 1992. GED test performance of adult examinees and high school seniors. *GED profiles: Adults in transition*, 5. Washington, D.C.: American Council on Education. For additional information on the content and development of the GED Tests, see: Auchter, J. C., S. Sireci, and G. Skaggs. 1993. *The Tests of General Educational Development: Technical manual*; and GED Testing Service. 1987. *The official teacher's guide to the Tests of General Educational Development*.

[9] Other editions of the GED Tests include the Canadian English-language edition, which is normed on Canadian high school seniors; the Spanish-language edition, which is normed on Puerto Rican high school seniors; and the French-language edition, which is normed on Canadian high school seniors in New Brunswick.

[10] Bloom, B. S., M. D. Engelhart, E. J. Furst, W. H. Hill, and D. R. Krathwohl. 1956. *Taxonomy of educational objectives handbook I: Cognitive domain*. New York: David McKay. Questions classified at higher levels—such as analysis, synthesis, and evaluation—also require the use of skills classified at lower levels, such as comprehension and application.

Appendix B: Definitions of Variables

Age

Examinees were asked to indicate their dates of birth in the answer booklets accompanying the GED Tests. They were then categorized into the following age groups: 16 to 17, 18 to 19, 20 to 24, 25 to 34, 35 to 44, 45 to 54, and 55 and older.

Race/ethnicity

Examinees were given a list of racial/ethnic categories and were asked to select the one that best described them. If they had difficulty choosing a category or refused to answer the question, the interviewer used the following definitions to code their race/ethnicity:

> White: persons with origins in any of the original peoples of Europe, North Africa, or the Middle East.
>
> African American: persons with origins in any of the black racial groups of Africa.
>
> American Indian: persons with origins in any of the original peoples of North America and who maintain cultural identification through tribal affiliation or community recognition.
>
> Alaskan Native: persons with origins in any of the original peoples of Alaska or the Aleutian Islands and who maintain cultural identification.
>
> Pacific Islander: persons with origins in any of the Pacific Islands, including, for example, the Philippine Islands and Samoa.
>
> Asian: persons with origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent.

Respondents were then asked whether they were of Spanish or Hispanic origin or descent; those who answered "yes" were categorized as Hispanic.

This report presents data for white, African American, and Hispanic individuals. The numbers of examinees in other racial/ethnic groups were too small to provide reliable proficiency estimates.

Country of birth

Examinees were asked whether they were born in the United States, a U.S. territory, or another country. For the analyses in this report, individuals who were born in a United States territory were grouped with those born in the United States.

Sex

Examinees were asked to indicate their sex in the answer booklets accompanying the GED Tests.

Geographic region

Examinees were assigned to various regions according to the states in which their GED testing centers were located. The regional definitions used in this study are identical to those used by the U.S. Bureau of the Census:

> Northeast: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont.
>
> Midwest: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin.
>
> South: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia.
>
> West: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

Disability status

Examinees were asked to indicate whether they had a physical, mental, or other health condition that prevented them from participating fully in work, school, housework, or other activities. They were also asked to indicate whether they had difficulty seeing the words and letters in ordinary newspaper print, even when wearing glasses or contact lenses. Finally, they were asked whether they had difficulty hearing what was said in a normal conversation with another person, even when using a hearing aid.

Reasons for leaving school

Examinees were asked to identify from the following list the main reason why they stopped their schooling when they did: financial problems, went to work or into the military, pregnancy, lost interest in school, behavior problems, academic problems, family or personal problems, or learning needs not met. The interviewer did not read the response categories to the examinee; the interviewer coded the category that best reflected the answer.

Educational expectations

Examinees were asked to indicate what other diplomas, certificates, degrees, or accreditation they expected to earn upon receiving the GED certificate. The response options were: vocational, trade, or business; two-year college degree (associate's); four- or five-year college degree (bachelor's.); master's, Ph.D., M.D., or other advanced degree; other; or none.

Participation in a basic skills program

Respondents were asked whether they were currently or had ever enrolled in any program other than regular school in order to improve their basic skills—that is, their reading, writing, and arithmetic skills.

Methods of study for the GED tests

Examinees were asked to indicate the one way they prepared most for the GED Tests: attended a GED review class; attended a learning center; worked with an individual tutor; took the Official GED Practice Tests; studied from a book or manual designed for GED study; watched GED study programs on television; studied with a family member or friend; talked with someone who had taken the GED; other; or did not study or prepare in any way. In the analyses in this report, responses of examinees who had studied with a tutor, those who had studied with a family member or friend, and those who had prepared by watching a GED program on television were grouped together.

Labor force participation

Examinees were asked to indicate their labor force status during the week prior to the interview. The following categories were used for the analyses in this report:

> Employed full time: examinees working 35 hours or more a week for pay or profit.
>
> Employed part time: examinees working 1 to 34 hours a week for pay or profit.

Employed, not at work: examinees who had jobs but were not at work because of temporary illness, vacation, or work stoppage.

Unemployed: examinees who were unemployed, laid off, or looking for work. This category included those who were not working the prior week but who either were laid off from a job to which they expected to be recalled; were waiting to begin a new job for which they had been hired; or had been actively looking for work during the previous four weeks.

Out of the labor force: examinees who were in school, keeping house, retired, or doing volunteer work, and who were not performing any work for pay.

Number of weeks worked

Examinees were asked to indicate the number of weeks they worked for pay or profit during the previous 12 months. Weeks of paid vacation and sick leave were considered weeks of work. Examinees' responses were then grouped into the following categories: 0 weeks, 1 to 13 weeks, 14 to 26 weeks, 27 to 39 weeks, and 40 weeks or more.

Number of years of full-time employment

Examinees were asked how many years they had worked full time. If they had been employed full time sporadically, they were asked to estimate how many years total they had been employed full time. The following categories were created for reporting purposes: none, less than 1 year, 1 to 3 years, 4 to 10 years, and 11 years or more.

Weekly wages

Examinees were asked to indicate their average weekly wage or salary (before deductions) for the 12 months prior to the survey. Those who were unable to accurately indicate a weekly rate stated their wages in other units (e.g., hourly, monthly), and these were converted to weekly rates. For examinees who held two or more jobs, the average weekly wage was the total earned from all jobs. Examinees were then divided into the following weekly wage categories: less than $200, $200 to $500, and more than $500.

Annual household income

Examinees were asked to report their approximate total family income from all sources in 1992. They were instructed to consider as family anyone who lived in their household and who was related to them by blood, marriage, or adoption. "Income from all sources" included income received through jobs, interest on checking or savings accounts, dividends or property rental, unemployment or Workmen's Compensation, Social Security or retirement, payments from Aid to Families with Dependent Children (AFDC), Supplemental Security Income (SSI), general assistance, food stamps, child support from a former spouse, and regular contributions from other persons. Examinees' responses were then divided into the following annual household income categories: do not know, no income, less than $10,000; $10,000 to $19,999; $20,000 to $39,999; and $40,000 or more.

Appendix C:
Tables

TABLE 1
PERCENTAGES OF GED EXAMINEES BY LITERACY LEVEL

GROUP/	PROSE		DOCUMENT		QUANTITATIVE	
LEVEL	PERCENT	(N)	PERCENT	(N)	PERCENT	(N)
ALL EXAMINEES						
1	8.3	(131)	8.4	(132)	15.9	(249)
2	39.8	(625)	39.5	(620)	40.9	(642)
3	42.9	(673)	42.3	(664)	34.8	(546)
4	8.8	(138)	9.6	(150)	8.3	(130)
5	0.2	(3)	0.3	(4)	0.2	(3)
Total	100	(1570)	100	(1570)	100	(1570)
PASSERS						
1	2.0	(22)	3.2	(36)	4.1	(46)
2	31.1	(351)	31.6	(357)	38.8	(438)
3	54.5	(615)	51.8	(585)	45.5	(514)
4	12.2	(138)	13.0	(147)	11.3	(128)
5	0.3	(3)	0.4	(4)	0.3	(3)
Total	100	(1129)	100	(1129)	100	(1129)
NONPASSERS						
1	24.7	(109)	21.8	(96)	46.0	(203)
2	62.1	(274)	59.6	(263)	46.3	(204)
3	13.2	(58)	17.9	(79)	7.3	(32)
4	0.0	(0)	0.7	(3)	0.4	(2)
5	0.0	(0)	0.0	(0)	0.0	(0)
Total	100	(441)	100	(441)	100	(441)

Note: For all analyses by passers and nonpassers, the sample size is 1570. Three of the 1573 cases in the GED-NALS Comparison Study sample were excluded because GED pass/fail status was not available.

TABLE 2A
AGE: PROSE

		PASSERS	NONPASSERS	TOTAL
16-17	N	211	91	302
	ROW %	69.9 (2.9)	30.1 (2.9)	100.0 (0.0)
	COL %	18.8 (1.2)	20.9 (2.6)	19.4 (1.4)
	MEAN	287.3 (2.7)	240.9 (6.0)	273.3 (4.3)
18-19	N	277	89	366
	ROW %	75.7 (2.6)	24.3 (2.6)	100.0 (0.0)
	COL %	24.6 (1.8)	20.4 (1.5)	23.5 (1.4)
	MEAN	286.4 (1.7)	242.7 (3.6)	275.7 (2.1)
20-24	N	233	76	309
	ROW %	75.4 (1.9)	24.6 (1.9)	100.0 (0.0)
	COL %	20.7 (1.3)	17.4 (1.9)	19.8 (1.3)
	MEAN	292.0 (2.2)	245.3 (3.0)	280.5 (2.1)
25-34	N	220	98	318
	ROW %	69.2 (2.3)	30.8 (2.3)	100.0 (0.0)
	COL %	19.6 (1.4)	22.5 (2.3)	20.4 (1.3)
	MEAN	294.2 (2.3)	250.4 (2.9)	280.7 (2.0)
35-44	N	111	58	169
	ROW %	65.7 (3.1)	34.3 (3.1)	100.0 (0.0)
	COL %	9.9 (0.7)	13.3 (1.4)	10.8 (0.6)
	MEAN	293.8 (2.6)	243.1 (4.1)	276.4 (2.4)
45-54	N	47	18	65
	ROW %	72.3 (4.9)	27.7 (4.9)	100.0 (0.0)
	COL %	4.2 (0.5)	4.1 (0.9)	4.2 (0.5)
	MEAN	287.7 (4.8)	248.0 (6.9)	276.7 (4.8)
55 +	N	25	6	31
	ROW %	80.6 (7.5)	19.4 (7.5)	100.0 (0.0)
	COL %	2.2 (0.5)	1.4 (0.6)	2.0 (0.4)
	MEAN	291.3 (6.2)	246.9 (12.0)	282.7 (6.3)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	290.1 (1.1)	244.5 (1.3)	277.3 (1.2)

MISSING N = 10.

TABLE 2B
AGE: DOCUMENT

		PASSERS	NONPASSERS	TOTAL
16-17	N	211	91	302
	ROW %	69.9 (2.9)	30.1 (2.9)	100.0 (0.0)
	COL %	18.8 (1.2)	20.9 (2.6)	19.4 (1.4)
	MEAN	290.8 (2.6)	248.5 (7.3)	278.1 (4.4)
18-19	N	277	89	366
	ROW %	75.7 (2.6)	24.3 (2.6)	100.0 (0.0)
	COL %	24.6 (1.8)	20.4 (1.5)	23.5 (1.4)
	MEAN	287.4 (1.9)	248.4 (4.8)	277.9 (2.3)
20-24	N	233	76	309
	ROW %	75.4 (1.9)	24.6 (1.9)	100.0 (0.0)
	COL %	20.7 (1.3)	17.4 (1.9)	19.8 (1.3)
	MEAN	291.6 (2.4)	249.7 (4.0)	281.3 (2.3)
25-34	N	220	98	318
	ROW %	69.2 (2.3)	30.8 (2.3)	100.0 (0.0)
	COL %	19.6 (1.4)	22.5 (2.3)	20.4 (1.3)
	MEAN	291.6 (2.7)	254.4 (3.3)	280.1 (2.4)
35-44	N	111	58	169
	ROW %	65.7 (3.1)	34.3 (3.1)	100.0 (0.0)
	COL %	9.9 (0.7)	13.3 (1.4)	10.8 (0.6)
	MEAN	289.7 (3.3)	242.6 (3.7)	273.6 (3.0)
45-54	N	47	18	65
	ROW %	72.3 (4.9)	27.7 (4.9)	100.0 (0.0)
	COL %	4.2 (0.5)	4.1 (0.9)	4.2 (0.5)
	MEAN	280.3 (5.1)	246.2 (9.7)	270.9 (4.9)
55 +	N	25	6	31
	ROW %	80.6 (7.5)	19.4 (7.5)	100.0 (0.0)
	COL %	2.2 (0.5)	1.4 (0.6)	2.0 (0.4)
	MEAN	272.7 (9.5)	246.0 (18.0)	267.6 (7.9)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	289.2 (1.2)	248.9 (1.5)	277.9 (1.3)

MISSING N = 10.

TABLE 2C
AGE: QUANTITATIVE

		PASSERS	NONPASSERS	TOTAL
16-17	N	211	91	302
	ROW %	69.9 (2.9)	30.1 (2.9)	100.0 (0.0)
	COL %	18.8 (1.2)	20.9 (2.6)	19.4 (1.4)
	MEAN	283.8 (2.4)	228.4 (7.2)	267.1 (4.1)
18-19	N	277	89	366
	ROW %	75.7 (2.6)	24.3 (2.6)	100.0 (0.0)
	COL %	24.6 (1.8)	20.4 (1.5)	23.5 (1.4)
	MEAN	282.5 (1.7)	228.6 (3.5)	269.4 (2.1)
20-24	N	233	76	309
	ROW %	75.4 (1.9)	24.6 (1.9)	100.0 (0.0)
	COL %	20.7 (1.3)	17.4 (1.9)	19.8 (1.3)
	MEAN	285.3 (2.3)	231.8 (3.7)	272.2 (2.4)
25-34	N	220	98	318
	ROW %	69.2 (2.3)	30.8 (2.3)	100.0 (0.0)
	COL %	19.6 (1.4)	22.5 (2.3)	20.4 (1.3)
	MEAN	285.1 (2.5)	236.0 (3.1)	269.9 (2.2)
35-44	N	111	58	169
	ROW %	65.7 (3.1)	34.3 (3.1)	100.0 (0.0)
	COL %	9.9 (0.7)	13.3 (1.4)	10.8 (0.6)
	MEAN	284.3 (3.7)	227.8 (5.2)	264.9 (3.9)
45-54	N	47	18	65
	ROW %	72.3 (4.9)	27.7 (4.9)	100.0 (0.0)
	COL %	4.2 (0.5)	4.1 (0.9)	4.2 (0.5)
	MEAN	283.8 (5.6)	244.7 (6.5)	273.0 (5.6)
55 +	N	25	6	31
	ROW %	80.6 (7.5)	19.4 (7.5)	100.0 (0.0)
	COL %	2.2 (0.5)	1.4 (0.6)	2.0 (0.4)
	MEAN	286.9 (7.8)	233.4 (10.5)	276.6 (7.3)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	284.1 (1.1)	231.2 (2.0)	269.2 (1.6)

MISSING N = 10.

TABLE 3A
RACE: PROSE

		PASSERS	NONPASSERS	TOTAL
AFRICAN AMERICAN	N	162	170	332
	ROW %	48.8 (2.6)	51.2 (2.6)	100.0 (0.0)
	COL %	14.3 (1.9)	38.5 (1.8)	21.1 (1.7)
	MEAN	274.2 (1.8)	240.0 (2.3)	256.7 (1.8)
HISPANIC	N	111	44	155
	ROW %	71.6 (3.7)	28.4 (3.7)	100.0 (0.0)
	COL %	9.8 (0.9)	10.0 (1.7)	9.9 (0.9)
	MEAN	290.0 (3.7)	238.1 (5.7)	275.3 (4.0)
ASIAN	N	18	6	24
	ROW %	75.0 (6.8)	25.0 (6.8)	100.0 (0.0)
	COL %	1.6 (0.3)	1.4 (0.6)	1.5 (0.3)
	MEAN	267.2 (13.0)	244.3 (10.8)	261.5 (9.7)
AMERICAN INDIAN	N	22	6	28
	ROW %	78.6 (7.1)	21.4 (7.1)	100.0 (0.0)
	COL %	1.9 (0.5)	1.4 (0.4)	1.8 (0.4)
	MEAN	295.1 (6.2)	267.4 (8.4)	289.2 (5.9)
PACIFIC ISLANDER	N	4	5	9
	ROW %	44.4 (22.4)	55.6 (22.4)	100.0 (0.0)
	COL %	0.4 (0.1)	1.1 (0.6)	0.6 (0.1)
	MEAN	290.7 (20.9)	245.1 (12.0)	265.3 (17.6)
WHITE	N	798	199	997
	ROW %	80.0 (1.3)	20.0 (1.3)	100.0 (0.0)
	COL %	70.7 (1.8)	45.1 (2.2)	63.5 (1.8)
	MEAN	293.5 (1.2)	249.6 (1.7)	284.7 (1.1)
OTHER	N	6	9	15
	ROW %	40.0 (12.9)	60.0 (12.9)	100.0 (0.0)
	COL %	0.5 (0.3)	2.0 (0.5)	1.0 (0.3)
	MEAN	295.4 (11.4)	241.3 (15.7)	262.9 (14.3)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	290.1 (1.1)	244.5 (1.3)	277.3 (1.2)

MISSING N = 10.

TABLE 3B
RACE: DOCUMENT

		PASSERS	NONPASSERS	TOTAL
AFRICAN AMERICAN	N	162	170	332
	ROW %	48.8 (2.6)	51.2 (2.6)	100.0 (0.0)
	COL %	14.3 (1.9)	38.5 (1.8)	21.1 (1.7)
	MEAN	270.3 (2.0)	241.4 (2.2)	255.5 (1.6)
HISPANIC	N	111	44	155
	ROW %	71.6 (3.7)	28.4 (3.7)	100.0 (0.0)
	COL %	9.8 (0.9)	10.0 (1.7)	9.9 (0.9)
	MEAN	293.5 (5.1)	246.2 (7.1)	280.1 (5.3)
ASIAN	N	18	6	24
	ROW %	75.0 (6.8)	25.0 (6.8)	100.0 (0.0)
	COL %	1.6 (0.3)	1.4 (0.6)	1.5 (0.3)
	MEAN	277.5 (14.2)	262.4 (32.2)	273.7 (12.4)
AMERICAN INDIAN	N	22	6	28
	ROW %	78.6 (7.1)	21.4 (7.1)	100.0 (0.0)
	COL %	1.9 (0.5)	1.4 (0.4)	1.8 (0.4)
	MEAN	286.5 (7.0)	269.2 (6.7)	282.8 (5.7)
PACIFIC ISLANDER	N	4	5	9
	ROW %	44.4 (22.4)	55.6 (22.4)	100.0 (0.0)
	COL %	0.4 (0.1)	1.1 (0.6)	0.6 (0.1)
	MEAN	283.3 (15.5)	247.6 (22.1)	263.5 (14.2)
WHITE	N	798	199	997
	ROW %	80.0 (1.3)	20.0 (1.3)	100.0 (0.0)
	COL %	70.7 (1.8)	45.1 (2.2)	63.5 (1.8)
	MEAN	292.7 (1.2)	255.8 (2.0)	285.3 (1.2)
OTHER	N	6	9	15
	ROW %	40.0 (12.9)	60.0 (12.9)	100.0 (0.0)
	COL %	0.5 (0.3)	2.0 (0.5)	1.0 (0.3)
	MEAN	280.8 (11.9)	228.2 (9.0)	249.3 (10.7)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	289.2 (1.2)	248.9 (1.5)	277.9 (1.3)

MISSING N = 10.

TABLE 3C
RACE: QUANTITATIVE

		PASSERS	NONPASSERS	TOTAL
AFRICAN AMERICAN	N	162	170	332
	ROW %	48.8 (2.6)	51.2 (2.6)	100.0 (0.0)
	COL %	14.3 (1.9)	38.5 (1.8)	21.1 (1.7)
	MEAN	262.3 (2.4)	219.9 (3.6)	240.5 (2.2)
HISPANIC	N	111	44	155
	ROW %	71.6 (3.7)	28.4 (3.7)	100.0 (0.0)
	COL %	9.8 (0.9)	10.0 (1.7)	9.9 (0.9)
	MEAN	279.7 (3.9)	229.5 (7.5)	265.4 (4.7)
ASIAN	N	18	6	24
	ROW %	75.0 (6.8)	25.0 (6.8)	100.0 (0.0)
	COL %	1.6 (0.3)	1.4 (0.6)	1.5 (0.3)
	MEAN	292.9 (12.0)	267.6 (19.2)	286.6 (11.3)
AMERICAN INDIAN	N	22	6	28
	ROW %	78.6 (7.1)	21.4 (7.1)	100.0 (0.0)
	COL %	1.9 (0.5)	1.4 (0.4)	1.8 (0.4)
	MEAN	292.6 (7.5)	273.2 (12.9)	288.5 (6.9)
PACIFIC ISLANDER	N	4	5	9
	ROW %	44.4 (22.4)	55.6 (22.4)	100.0 (0.0)
	COL %	0.4 (0.1)	1.1 (0.6)	0.6 (0.1)
	MEAN	299.0 (36.8)	234.3 (15.8)	263.1 (32.4)
WHITE	N	798	199	997
	ROW %	80.0 (1.3)	20.0 (1.3)	100.0 (0.0)
	COL %	70.7 (1.8)	45.1 (2.2)	63.5 (1.8)
	MEAN	288.1 (1.3)	239.3 (2.1)	278.4 (1.2)
OTHER	N	6	9	15
	ROW %	40.0 (12.9)	60.0 (12.9)	100.0 (0.0)
	COL %	0.5 (0.3)	2.0 (0.5)	1.0 (0.3)
	MEAN	287.7 (10.6)	224.3 (19.3)	249.6 (16.5)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	284.1 (1.1)	231.2 (2.0)	269.2 (1.6)

MISSING N = 10.

TABLE 4A
COUNTRY OF BIRTH: PROSE

		PASSERS	NONPASSERS	TOTAL
U.S.	N	1068	390	1458
	ROW %	73.3 (1.2)	26.7 (1.2)	100.0 (0.0)
	COL %	94.6 (0.6)	88.4 (1.5)	92.9 (0.7)
	MEAN	290.3 (1.1)	245.3 (1.4)	278.3 (1.2)
OTHER	N	61	51	112
	ROW %	54.5 (3.6)	45.5 (3.6)	100.0 (0.0)
	COL %	5.4 (0.6)	11.6 (1.5)	7.1 (0.7)
	MEAN	285.5 (6.2)	238.8 (4.0)	264.2 (3.5)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	290.1 (1.1)	244.5 (1.3)	277.3 (1.2)

TABLE 4B
COUNTRY OF BIRTH: DOCUMENT

		PASSERS	NONPASSERS	TOTAL
U.S.	N	1068	390	1458
	ROW %	73.3 (1.2)	26.7 (1.2)	100.0 (0.0)
	COL %	94.6 (0.6)	88.4 (1.5)	92.9 (0.7)
	MEAN	289.6 (1.1)	249.9 (1.6)	279.0 (1.3)
OTHER	N	61	51	112
	ROW %	54.5 (3.6)	45.5 (3.6)	100.0 (0.0)
	COL %	5.4 (0.6)	11.6 (1.5)	7.1 (0.7)
	MEAN	283.7 (5.0)	241.4 (5.5)	264.4 (3.1)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	289.2 (1.2)	248.9 (1.5)	277.9 (1.3)

TABLE 4C
COUNTRY OF BIRTH: QUANTITATIVE

		PASSERS	NONPASSERS	TOTAL
U.S.	N	1068	390	1458
	ROW %	73.3 (1.2)	26.7 (1.2)	100.0 (0.0)
	COL %	94.6 (0.6)	88.4 (1.5)	92.9 (0.7)
	MEAN	283.9 (1.1)	230.7 (2.1)	269.6 (1.6)
OTHER	N	61	51	112
	ROW %	54.5 (3.6)	45.5 (3.6)	100.0 (0.0)
	COL %	5.4 (0.6)	11.6 (1.5)	7.1 (0.7)
	MEAN	287.6 (6.5)	235.1 (6.7)	263.7 (4.5)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	284.1 (1.1)	231.2 (2.0)	269.2 (1.6)

TABLE 5A
SEX: PROSE

		PASSERS	NONPASSERS	TOTAL
MALE	N	470	183	653
	ROW %	72.0 (1.9)	28.0 (1.9)	100.0 (0.0)
	COL %	42.2 (1.4)	42.5 (2.0)	42.3 (1.2)
	MEAN	286.7 (1.4)	241.3 (2.6)	273.9 (1.5)
FEMALE	N	643	248	891
	ROW %	72.2 (1.2)	27.8 (1.2)	100.0 (0.0)
	COL %	57.8 (1.4)	57.5 (2.0)	57.7 (1.2)
	MEAN	292.4 (1.4)	246.9 (1.8)	279.7 (1.5)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	290.1 (1.1)	244.5 (1.3)	277.3 (1.2)

TABLE 5B
SEX: DOCUMENT

		PASSERS	NONPASSERS	TOTAL
MALE	N	470	183	653
	ROW %	72.0 (1.9)	28.0 (1.9)	100.0 (0.0)
	COL %	42.2 (1.4)	42.5 (2.0)	42.3 (1.2)
	MEAN	285.1 (1.4)	244.6 (2.1)	273.8 (1.5)
FEMALE	N	643	248	891
	ROW %	72.2 (1.2)	27.8 (1.2)	100.0 (0.0)
	COL %	57.8 (1.4)	57.5 (2.0)	57.7 (1.2)
	MEAN	291.9 (1.8)	252.0 (2.1)	280.8 (1.8)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	289.2 (1.2)	248.9 (1.5)	277.9 (1.3)

TABLE 5C
SEX: QUANTITATIVE

		PASSERS	NONPASSERS	TOTAL
MALE	N	470	183	653
	ROW %	72.0 (1.9)	28.0 (1.9)	100.0 (0.0)
	COL %	42.2 (1.4)	42.5 (2.0)	42.3 (1.2)
	MEAN	285.9 (1.7)	234.8 (3.4)	271.6 (2.1)
FEMALE	N	643	248	891
	ROW %	72.2 (1.2)	27.8 (1.2)	100.0 (0.0)
	COL %	57.8 (1.4)	57.5 (2.0)	57.7 (1.2)
	MEAN	282.5 (1.3)	228.8 (2.0)	267.6 (1.6)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	284.1 (1.1)	231.2 (2.0)	269.2 (1.6)

MISSING N = 26.

BEST COPY AVAILABLE

TABLE 6A
REGION: PROSE

		PASSERS	NONPASSERS	TOTAL
NORTHEAST	N	115	50	165
	ROW %	69.7 (3.8)	30.3 (3.8)	100.0 (0.0)
	COL %	10.2 (1.1)	11.3 (1.8)	10.5 (1.0)
	MEAN	295.9 (3.7)	247.9 (5.2)	281.4 (4.0)
MIDWEST	N	448	167	615
	ROW %	72.8 (2.5)	27.2 (2.5)	100.0 (0.0)
	COL %	39.7 (1.6)	37.9 (4.1)	39.2 (2.1)
	MEAN	285.8 (1.3)	242.7 (1.9)	274.1 (1.6)
SOUTH	N	352	181	533
	ROW %	66.0 (1.5)	34.0 (1.5)	100.0 (0.0)
	COL %	31.2 (1.4)	41.0 (3.2)	33.9 (1.6)
	MEAN	289.4 (2.1)	243.9 (2.4)	274.0 (2.0)
WEST	N	214	43	257
	ROW %	83.3 (2.0)	16.7 (2.0)	100.0 (0.0)
	COL %	19.0 (1.1)	9.8 (1.4)	16.4 (1.0)
	MEAN	297.0 (2.5)	250.7 (4.4)	289.2 (2.9)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	290.1 (1.1)	244.5 (1.3)	277.3 (1.2)

TABLE 6B
REGION: DOCUMENT

		PASSERS	NONPASSERS	TOTAL
NORTHEAST	N	115	50	165
	ROW %	69.7 (3.8)	30.3 (3.8)	100.0 (0.0)
	COL %	10.2 (1.1)	11.3 (1.8)	10.5 (1.0)
	MEAN	293.6 (3.4)	250.1 (4.4)	280.4 (2.6)
MIDWEST	N	448	167	615
	ROW %	72.8 (2.5)	27.2 (2.5)	100.0 (0.0)
	COL %	39.7 (1.6)	37.9 (4.1)	39.2 (2.1)
	MEAN	285.4 (1.4)	246.7 (2.1)	274.9 (2.0)
SOUTH	N	352	181	533
	ROW %	66.0 (1.5)	34.0 (1.5)	100.0 (0.0)
	COL %	31.2 (1.4)	41.0 (3.2)	33.9 (1.6)
	MEAN	288.6 (2.2)	248.3 (2.8)	274.9 (1.9)
WEST	N	214	43	257
	ROW %	83.3 (2.0)	16.7 (2.0)	100.0 (0.0)
	COL %	19.0 (1.1)	9.8 (1.4)	16.4 (1.0)
	MEAN	296.0 (3.5)	258.6 (7.4)	289.7 (4.3)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	289.2 (1.2)	248.9 (1.5)	277.9 (1.3)

TABLE 6C
REGION: QUANTITATIVE

		PASSERS	NONPASSERS	TOTAL
NORTHEAST	N	115	50	165
	ROW %	69.7 (3.8)	30.3 (3.8)	100.0 (0.0)
	COL %	10.2 (1.1)	11.3 (1.8)	10.5 (1.0)
	MEAN	291.1 (3.0)	238.0 (5.4)	275.0 (3.5)
MIDWEST	N	448	167	615
	ROW %	72.8 (2.5)	27.2 (2.5)	100.0 (0.0)
	COL %	39.7 (1.6)	37.9 (4.1)	39.2 (2.1)
	MEAN	279.5 (1.4)	225.0 (3.7)	264.7 (2.8)
SOUTH	N	352	181	533
	ROW %	66.0 (1.5)	34.0 (1.5)	100.0 (0.0)
	COL %	31.2 (1.4)	41.0 (3.2)	33.9 (1.6)
	MEAN	284.7 (2.5)	232.8 (1.9)	267.1 (2.2)
WEST	N	214	43	257
	ROW %	83.3 (2.0)	16.7 (2.0)	100.0 (0.0)
	COL %	19.0 (1.1)	9.8 (1.4)	16.4 (1.0)
	MEAN	288.7 (2.6)	240.5 (8.7)	280.6 (3.5)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	284.1 (1.1)	231.2 (2.0)	269.2 (1.6)

TABLE 7A
ANY DISABILITY: PROSE

		PASSERS	NONPASSERS	TOTAL
YES	N	90	42	132
	ROW %	68.2 (4.5)	31.8 (4.5)	100.0 (0.0)
	COL %	8.0 (1.0)	9.5 (1.4)	8.4 (0.7)
	MEAN	291.8 (3.3)	245.6 (4.5)	277.1 (3.6)
NO	N	1037	398	1435
	ROW %	72.3 (1.3)	27.7 (1.3)	100.0 (0.0)
	COL %	91.9 (1.1)	90.2 (1.4)	91.4 (0.8)
	MEAN	289.9 (1.2)	244.3 (1.2)	277.3 (1.2)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	290.1 (1.1)	244.5 (1.3)	277.3 (1.2)

TABLE 7B
ANY DISABILITY: DOCUMENT

		PASSERS	NONPASSERS	TOTAL
YES	N	90	42	132
	ROW %	68.2 (4.5)	31.8 (4.5)	100.0 (0.0)
	COL %	8.0 (1.0)	9.5 (1.4)	8.4 (0.7)
	MEAN	290.9 (3.8)	254.0 (5.2)	279.1 (3.5)
NO	N	1037	398	1435
	ROW %	72.3 (1.3)	27.7 (1.3)	100.0 (0.0)
	COL %	91.9 (1.1)	90.2 (1.4)	91.4 (0.8)
	MEAN	289.1 (1.4)	248.3 (1.5)	277.8 (1.4)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	289.2 (1.2)	248.9 (1.5)	277.9 (1.3)

TABLE 7C
ANY DISABILITY: QUANTITATIVE

		PASSERS	NONPASSERS	TOTAL
YES	N	90	42	132
	ROW %	68.2 (4.5)	31.8 (4.5)	100.0 (0.0)
	COL %	8.0 (1.0)	9.5 (1.4)	8.4 (0.7)
	MEAN	284.2 (4.5)	233.5 (4.8)	268.1 (4.0)
NO	N	1037	398	1435
	ROW %	72.3 (1.3)	27.7 (1.3)	100.0 (0.0)
	COL %	91.9 (1.1)	90.2 (1.4)	91.4 (0.8)
	MEAN	284.0 (1.2)	230.8 (2.1)	269.3 (1.6)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	284.1 (1.1)	231.2 (2.0)	269.2 (1.6)

MISSING N =3.

TABLE 8A
VISUAL DISABILITY: PROSE

		PASSERS	NONPASSERS	TOTAL
YES	N	57	38	95
	ROW %	60.0 (4.6)	40.0 (4.6)	100.0 (0.0)
	COL %	5.0 (0.7)	8.6 (1.2)	6.1 (0.6)
	MEAN	284.3 (3.9)	232.2 (3.6)	263.5 (3.0)
NO	N	1071	402	1473
	ROW %	72.7 (1.4)	27.3 (1.4)	100.0 (0.0)
	COL %	94.9 (0.7)	91.2 (1.2)	93.8 (0.5)
	MEAN	290.4 (1.1)	245.6 (1.4)	278.2 (1.3)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	290.1 (1.1)	244.5 (1.3)	277.3 (1.2)

TABLE 8B
VISUAL DISABILITY: DOCUMENT

		PASSERS	NONPASSERS	TOTAL
YES	N	57	38	95
	ROW %	60.0 (4.6)	40.0 (4.6)	100.0 (0.0)
	COL %	5.0 (0.7)	8.6 (1.2)	6.1 (0.6)
	MEAN	294.6 (6.0)	246.9 (5.2)	275.5 (4.1)
NO	N	1071	402	1473
	ROW %	72.7 (1.4)	27.3 (1.4)	100.0 (0.0)
	COL %	94.9 (0.7)	91.2 (1.2)	93.8 (0.5)
	MEAN	289.0 (1.2)	249.0 (1.5)	278.1 (1.4)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	289.2 (1.2)	248.9 (1.5)	277.9 (1.3)

TABLE 8C
VISUAL DISABILITY: QUANTITATIVE

		PASSERS	NONPASSERS	TOTAL
YES	N	57	38	95
	ROW %	60.0 (4.6)	40.0 (4.6)	100.0 (0.0)
	COL %	5.0 (0.7)	8.6 (1.2)	6.1 (0.6)
	MEAN	284.2 (4.6)	223.5 (4.7)	259.9 (3.0)
NO	N	1071	402	1473
	ROW %	72.7 (1.4)	27.3 (1.4)	100.0 (0.0)
	COL %	94.9 (0.7)	91.2 (1.2)	93.8 (0.5)
	MEAN	284.0 (1.1)	231.8 (2.2)	269.8 (1.6)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	284.1 (1.1)	231.2 (2.0)	269.2 (1.6)

MISSING N = 2.

TABLE 9A

HEARING DISABILITY: PROSE

		PASSERS	NONPASSERS	TOTAL
YES	N	54	19	73
	ROW %	74.0 (5.5)	26.0 (5.5)	100.0 (0.0)
	COL %	4.8 (0.6)	4.3 (1.1)	4.6 (0.5)
	MEAN	296.7 (3.8)	248.8 (6.0)	284.2 (3.3)
NO	N	1074	421	1495
	ROW %	71.8 (1.4)	28.2 (1.4)	100.0 (0.0)
	COL %	95.1 (0.7)	95.5 (1.1)	95.2 (0.5)
	MEAN	289.7 (1.1)	244.2 (1.3)	276.9 (1.3)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	290.1 (1.1)	244.5 (1.3)	277.3 (1.2)

TABLE 9B

HEARING DISABILITY: DOCUMENT

		PASSERS	NONPASSERS	TOTAL
YES	N	54	19	73
	ROW %	74.0 (5.5)	26.0 (5.5)	100.0 (0.0)
	COL %	4.8 (0.6)	4.3 (1.1)	4.6 (0.5)
	MEAN	290.7 (5.1)	254.0 (7.6)	281.1 (3.6)
NO	N	1074	421	1495
	ROW %	71.8 (1.4)	28.2 (1.4)	100.0 (0.0)
	COL %	95.1 (0.7)	95.5 (1.1)	95.2 (0.5)
	MEAN	289.2 (1.1)	248.6 (1.4)	277.8 (1.3)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	289.2 (1.2)	248.9 (1.5)	277.9 (1.3)

TABLE 9C

HEARING DISABILITY: QUANTITATIVE

		PASSERS	NONPASSERS	TOTAL
YES	N	54	19	73
	ROW %	74.0 (5.5)	26.0 (5.5)	100.0 (0.0)
	COL %	4.8 (0.6)	4.3 (1.1)	4.6 (0.5)
	MEAN	287.2 (4.6)	233.8 (6.7)	273.3 (3.4)
NO	N	1074	421	1495
	ROW %	71.8 (1.4)	28.2 (1.4)	100.0 (0.0)
	COL %	95.1 (0.7)	95.5 (1.1)	95.2 (0.5)
	MEAN	283.9 (1.1)	230.9 (2.1)	269.0 (1.6)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	284.1 (1.1)	231.2 (2.0)	269.2 (1.6)

MISSING N = 2.

TABLE 10A
MAIN REASON STOPPED SCHOOLING: PROSE

		PASSERS	NONPASSERS	TOTAL
FINANCIAL PROBLEMS	N	61	16	77
	ROW %	79.2 (4.6)	20.8 (4.6)	100.0 (0.0)
	COL %	5.6 (0.8)	3.8 (0.8)	5.1 (0.6)
	MEAN	295.7 (3.1)	240.5 (5.1)	284.2 (3.3)
WORK/ MILITARY	N	92	26	118
	ROW %	78.0 (2.8)	22.0 (2.8)	100.0 (0.0)
	COL %	8.5 (0.8)	6.2 (0.9)	7.9 (0.7)
	MEAN	298.9 (3.7)	249.4 (5.6)	288.0 (3.1)
PREGNANT	N	138	68	206
	ROW %	67.0 (3.1)	33.0 (3.1)	100.0 (0.0)
	COL %	12.7 (1.0)	16.3 (2.0)	13.7 (1.0)
	MEAN	290.7 (2.5)	247.0 (3.9)	276.3 (2.9)
LOST INTEREST	N	240	87	327
	ROW %	73.4 (2.5)	26.6 (2.5)	100.0 (0.0)
	COL %	22.1 (1.0)	20.9 (1.8)	21.8 (0.9)
	MEAN	286.0 (1.9)	242.7 (4.2)	274.5 (2.0)
BEHAVIOR PROBLEMS	N	63	35	98
	ROW %	64.3 (4.4)	35.7 (4.4)	100.0 (0.0)
	COL %	5.8 (0.7)	8.4 (1.1)	6.5 (0.5)
	MEAN	271.3 (5.1)	238.8 (4.7)	259.7 (3.1)
ACADEMIC PROBLEMS	N	58	23	81
	ROW %	71.6 (4.0)	28.4 (4.0)	100.0 (0.0)
	COL %	5.3 (0.6)	5.5 (1.0)	5.4 (0.6)
	MEAN	291.0 (4.0)	247.7 (5.1)	278.7 (4.1)
FAMILY PROBLEMS	N	231	82	313
	ROW %	73.8 (2.4)	26.2 (2.4)	100.0 (0.0)
	COL %	21.3 (1.1)	19.7 (1.8)	20.8 (1.1)
	MEAN	292.8 (2.0)	249.2 (3.2)	281.4 (2.6)
LEARNING NEEDS NOT MET	N	52	16	68
	ROW %	76.5 (6.4)	23.5 (6.4)	100.0 (0.0)
	COL %	4.8 (0.7)	3.8 (1.2)	4.5 (0.6)
	MEAN	299.4 (5.7)	248.5 (6.7)	287.4 (6.2)
OTHER	N	152	63	215
	ROW %	70.7 (2.4)	29.3 (2.4)	100.0 (0.0)
	COL %	14.0 (0.9)	15.1 (1.4)	14.3 (0.8)
	MEAN	291.4 (2.3)	244.7 (3.3)	277.7 (2.0)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	290.1 (1.1)	244.5 (1.3)	277.3 (1.2)

MISSING N = 67.

TABLE 10B
MAIN REASON STOPPED SCHOOLING: DOCUMENT

		PASSERS	NONPASSERS	TOTAL
FINANCIAL PROBLEMS	N	61	16	77
	ROW %	79.2 (4.6)	20.8 (4.6)	100.0 (0.0)
	COL %	5.6 (0.8)	3.8 (0.8)	5.1 (0.6)
	MEAN	286.5 (4.6)	233.8 (9.3)	275.6 (4.2)
WORK/ MILITARY	N	92	26	118
	ROW %	78.0 (2.8)	22.0 (2.8)	100.0 (0.0)
	COL %	8.5 (0.8)	6.2 (0.9)	7.9 (0.7)
	MEAN	289.2 (3.8)	250.0 (6.7)	280.6 (3.7)
PREGNANT	N	138	68	206
	ROW %	67.0 (3.1)	33.0 (3.1)	100.0 (0.0)
	COL %	12.7 (1.0)	16.3 (2.0)	13.7 (1.0)
	MEAN	297.9 (3.3)	257.5 (4.2)	284.5 (3.5)
LOST INTEREST	N	240	87	327
	ROW %	73.4 (2.5)	26.6 (2.5)	100.0 (0.0)
	COL %	22.1 (1.0)	20.9 (1.8)	21.8 (0.9)
	MEAN	287.3 (2.1)	248.9 (4.6)	277.1 (2.1)
BEHAVIOR PROBLEMS	N	63	35	98
	ROW %	64.3 (4.4)	35.7 (4.4)	100.0 (0.0)
	COL %	5.8 (0.7)	8.4 (1.1)	6.5 (0.5)
	MEAN	277.1 (4.0)	242.2 (7.1)	264.6 (3.6)
ACADEMIC PROBLEMS	N	58	23	81
	ROW %	71.6 (4.0)	28.4 (4.0)	100.0 (0.0)
	COL %	5.3 (0.6)	5.5 (1.0)	5.4 (0.6)
	MEAN	289.8 (4.9)	258.3 (6.6)	280.8 (4.9)
FAMILY PROBLEMS	N	231	82	313
	ROW %	73.8 (2.4)	26.2 (2.4)	100.0 (0.0)
	COL %	21.3 (1.1)	19.7 (1.8)	20.8 (1.1)
	MEAN	292.7 (2.5)	253.4 (4.1)	282.4 (2.9)
LEARNING NEEDS NOT MET	N	52	16	68
	ROW %	76.5 (6.4)	23.5 (6.4)	100.0 (0.0)
	COL %	4.8 (0.7)	3.8 (1.2)	4.5 (0.6)
	MEAN	298.1 (6.1)	256.0 (8.0)	288.2 (6.3)
OTHER	N	152	63	215
	ROW %	70.7 (2.4)	29.3 (2.4)	100.0 (0.0)
	COL %	14.0 (0.9)	15.1 (1.4)	14.3 (0.8)
	MEAN	283.8 (4.2)	244.5 (4.9)	272.3 (3.1)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	289.2 (1.2)	248.9 (1.5)	277.9 (1.3)

MISSING N = 67.

TABLE 10C
MAIN REASON STOPPED SCHOOLING: QUANTITATIVE

		PASSERS	NONPASSERS	TOTAL
FINANCIAL PROBLEMS	N	61	16	77
	ROW %	79.2 (4.6)	20.8 (4.6)	100.0 (0.0)
	COL %	5.6 (0.8)	3.8 (0.8)	5.1 (0.6)
	MEAN	291.2 (4.5)	237.8 (8.3)	280.1 (4.5)
WORK/ MILITARY	N	92	26	118
	ROW %	78.0 (2.8)	22.0 (2.8)	100.0 (0.0)
	COL %	8.5 (0.8)	6.2 (0.9)	7.9 (0.7)
	MEAN	297.6 (4.0)	246.1 (6.0)	286.3 (3.2)
PREGNANT	N	138	68	206
	ROW %	67.0 (3.1)	33.0 (3.1)	100.0 (0.0)
	COL %	12.7 (1.0)	16.3 (2.0)	13.7 (1.0)
	MEAN	281.2 (3.2)	227.5 (3.7)	263.5 (3.4)
LOST INTEREST	N	240	87	327
	ROW %	73.4 (2.5)	26.6 (2.5)	100.0 (0.0)
	COL %	22.1 (1.0)	20.9 (1.8)	21.8 (0.9)
	MEAN	282.2 (2.2)	228.5 (5.6)	267.9 (2.0)
BEHAVIOR PROBLEMS	N	63	35	98
	ROW %	64.3 (4.4)	35.7 (4.4)	100.0 (0.0)
	COL %	5.8 (0.7)	8.4 (1.1)	6.5 (0.5)
	MEAN	270.9 (4.7)	226.7 (5.2)	255.1 (3.3)
ACADEMIC PROBLEMS	N	58	23	81
	ROW %	71.6 (4.0)	28.4 (4.0)	100.0 (0.0)
	COL %	5.3 (0.6)	5.5 (1.0)	5.4 (0.6)
	MEAN	283.6 (3.8)	240.3 (7.5)	271.3 (4.4)
FAMILY PROBLEMS	N	231	82	313
	ROW %	73.8 (2.4)	26.2 (2.4)	100.0 (0.0)
	COL %	21.3 (1.1)	19.7 (1.8)	20.8 (1.1)
	MEAN	281.8 (2.4)	228.6 (3.5)	267.8 (3.2)
LEARNING NEEDS NOT MET	N	52	16	68
	ROW %	76.5 (6.4)	23.5 (6.4)	100.0 (0.0)
	COL %	4.8 (0.7)	3.8 (1.2)	4.5 (0.6)
	MEAN	293.6 (6.2)	236.8 (6.6)	280.3 (6.1)
OTHER	N	152	63	215
	ROW %	70.7 (2.4)	29.3 (2.4)	100.0 (0.0)
	COL %	14.0 (0.9)	15.1 (1.4)	14.3 (0.8)
	MEAN	284.7 (2.7)	237.2 (3.8)	270.8 (2.7)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	284.1 (1.1)	231.2 (2.0)	269.2 (1.6)

MISSING N = 67.

TABLE 11A
EDUCATIONAL EXPECTATIONS: PROSE

		PASSERS	NONPASSERS	TOTAL
VOCATIONAL	N	352	152	504
	ROW %	69.8 (2.0)	30.2 (2.0)	100.0 (0.0)
	COL %	31.2 (1.5)	34.5 (1.9)	32.1 (1.2)
	MEAN	286.6 (2.2)	243.6 (3.0)	273.6 (1.9)
ASSOCIATE'S	N	321	116	437
	ROW %	73.5 (1.9)	26.5 (1.9)	100.0 (0.0)
	COL %	28.4 (1.5)	26.3 (2.2)	27.8 (1.4)
	MEAN	291.1 (1.9)	245.8 (2.9)	279.0 (1.6)
BACHELOR'S	N	247	67	314
	ROW %	78.7 (1.9)	21.3 (1.9)	100.0 (0.0)
	COL %	21.9 (1.1)	15.2 (1.4)	20.0 (0.9)
	MEAN	293.6 (2.4)	243.2 (3.4)	282.9 (2.4)
ADVANCED	N	59	21	80
	ROW %	73.8 (4.9)	26.2 (4.9)	100.0 (0.0)
	COL %	5.2 (0.9)	4.8 (1.2)	5.1 (0.9)
	MEAN	295.1 (6.7)	242.2 (8.2)	281.2 (6.9)
OTHER	N	51	31	82
	ROW %	62.2 (5.9)	37.8 (5.9)	100.0 (0.0)
	COL %	4.5 (0.6)	7.0 (1.2)	5.2 (0.5)
	MEAN	293.9 (3.7)	245.3 (6.7)	275.5 (5.3)
NONE	N	99	52	151
	ROW %	65.6 (3.9)	34.4 (3.9)	100.0 (0.0)
	COL %	8.8 (0.9)	11.8 (1.4)	9.6 (0.7)
	MEAN	285.6 (3.2)	246.4 (3.6)	272.1 (3.0)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	290.1 (1.1)	244.5 (1.3)	277.3 (1.2)

MISSING N = 2.

TABLE 11B
EDUCATIONAL EXPECTATIONS: DOCUMENT

		PASSERS	NONPASSERS	TOTAL
VOCATIONAL	N	352	152	504
	ROW %	69.8 (2.0)	30.2 (2.0)	100.0 (0.0)
	COL %	31.2 (1.5)	34.5 (1.9)	32.1 (1.2)
	MEAN	288.4 (2.3)	249.5 (2.7)	276.6 (1.8)
ASSOCIATE'S	N	321	116	437
	ROW %	73.5 (1.9)	26.5 (1.9)	100.0 (0.0)
	COL %	28.4 (1.5)	26.3 (2.2)	27.8 (1.4)
	MEAN	290.7 (2.3)	247.9 (3.7)	279.3 (2.1)
BACHELOR'S	N	247	67	314
	ROW %	78.7 (1.9)	21.3 (1.9)	100.0 (0.0)
	COL %	21.9 (1.1)	15.2 (1.4)	20.0 (0.9)
	MEAN	291.1 (2.3)	244.9 (4.2)	281.2 (2.7)
ADVANCED	N	59	21	80
	ROW %	73.8 (4.9)	26.2 (4.9)	100.0 (0.0)
	COL %	5.2 (0.9)	4.8 (1.2)	5.1 (0.9)
	MEAN	292.8 (8.0)	248.8 (9.0)	281.2 (7.1)
OTHER	N	51	31	82
	ROW %	62.2 (5.9)	37.8 (5.9)	100.0 (0.0)
	COL %	4.5 (0.6)	7.0 (1.2)	5.2 (0.5)
	MEAN	286.6 (5.7)	245.3 (6.4)	271.0 (5.5)
NONE	N	99	52	151
	ROW %	65.6 (3.9)	34.4 (3.9)	100.0 (0.0)
	COL %	8.8 (0.9)	11.8 (1.4)	9.6 (0.7)
	MEAN	282.3 (3.6)	257.7 (5.3)	273.8 (3.2)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	289.2 (1.2)	248.9 (1.5)	277.9 (1.3)

MISSING N = 2.

TABLE 11C
EDUCATIONAL EXPECTATIONS: QUANTITATIVE

		PASSERS	NONPASSERS	TOTAL
VOCATIONAL	N	352	152	504
	ROW %	69.8 (2.0)	30.2 (2.0)	100.0 (0.0)
	COL %	31.2 (1.5)	34.5 (1.9)	32.1 (1.2)
	MEAN	281.7 (2.0)	232.0 (2.3)	266.7 (2.0)
ASSOCIATE'S	N	321	116	437
	ROW %	73.5 (1.9)	26.5 (1.9)	100.0 (0.0)
	COL %	28.4 (1.5)	26.3 (2.2)	27.8 (1.4)
	MEAN	283.8 (2.1)	229.4 (2.8)	269.4 (2.0)
BACHELOR'S	N	247	67	314
	ROW %	78.7 (1.9)	21.3 (1.9)	100.0 (0.0)
	COL %	21.9 (1.1)	15.2 (1.4)	20.0 (0.9)
	MEAN	287.7 (2.4)	231.5 (5.3)	275.7 (3.0)
ADVANCED	N	59	21	80
	ROW %	73.8 (4.9)	26.2 (4.9)	100.0 (0.0)
	COL %	5.2 (0.9)	4.8 (1.2)	5.1 (0.9)
	MEAN	289.8 (9.7)	219.7 (8.3)	271.4 (10.2)
OTHER	N	51	31	82
	ROW %	62.2 (5.9)	37.8 (5.9)	100.0 (0.0)
	COL %	4.5 (0.6)	7.0 (1.2)	5.2 (0.5)
	MEAN	286.8 (5.5)	234.0 (9.6)	266.9 (6.0)
NONE	N	99	52	151
	ROW %	65.6 (3.9)	34.4 (3.9)	100.0 (0.0)
	COL %	8.8 (0.9)	11.8 (1.4)	9.6 (0.7)
	MEAN	279.3 (2.8)	236.9 (3.4)	264.7 (3.0)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	284.1 (1.1)	231.2 (2.0)	269.2 (1.6)

MISSING N = 2.

TABLE 12A
EVER ENROLLED IN BASIC SKILLS PROGRAM: PROSE

		PASSERS	NONPASSERS	TOTAL
YES	N	282	155	437
	ROW %	64.5 (3.2)	35.5 (3.2)	100.0 (0.0)
	COL %	25.0 (1.0)	35.1 (3.0)	27.8 (0.8)
	MEAN	285.1 (1.9)	244.1 (2.2)	270.5 (2.5)
NO	N	844	285	1129
	ROW %	74.8 (1.3)	25.2 (1.3)	100.0 (0.0)
	COL %	74.8 (1.0)	64.6 (2.8)	71.9 (0.9)
	MEAN	291.7 (1.3)	244.7 (1.6)	279.9 (1.5)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	290.1 (1.1)	244.5 (1.3)	277.3 (1.2)

TABLE 12B
EVER ENROLLED IN BASIC SKILLS PROGRAM: DOCUMENT

		PASSERS	NONPASSERS	TOTAL
YES	N	282	155	437
	ROW %	64.5 (3.2)	35.5 (3.2)	100.0 (0.0)
	COL %	25.0 (1.0)	35.1 (3.0)	27.8 (0.8)
	MEAN	281.5 (2.5)	243.9 (3.0)	268.2 (2.8)
NO	N	844	285	1129
	ROW %	74.8 (1.3)	25.2 (1.3)	100.0 (0.0)
	COL %	74.8 (1.0)	64.6 (2.8)	71.9 (0.9)
	MEAN	291.9 (1.4)	251.6 (1.8)	281.7 (1.4)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	289.2 (1.2)	248.9 (1.5)	277.9 (1.3)

TABLE 12C
EVER ENROLLED IN BASIC SKILLS PROGRAM: QUANTITATIVE

		PASSERS	NONPASSERS	TOTAL
YES	N	282	155	437
	ROW %	64.5 (3.2)	35.5 (3.2)	100.0 (0.0)
	COL %	25.0 (1.0)	35.1 (3.0)	27.8 (0.8)
	MEAN	275.5 (2.4)	229.2 (3.2)	259.1 (3.3)
NO	N	844	285	1129
	ROW %	74.8 (1.3)	25.2 (1.3)	100.0 (0.0)
	COL %	74.8 (1.0)	64.6 (2.8)	71.9 (0.9)
	MEAN	286.9 (1.2)	232.3 (2.2)	273.1 (1.5)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	284.1 (1.1)	231.2 (2.0)	269.2 (1.6)

MISSING N = 4.

TABLE 13A
TYPE OF GED PREPARATION: PROSE

		PASSERS	NONPASSERS	TOTAL
GED CLASS	N	436	232	668
	ROW %	65.3 (1.8)	34.7 (1.8)	100.0 (0.0)
	COL %	39.4 (1.1)	54.0 (2.1)	43.4 (1.0)
	MEAN	284.3 (1.6)	242.1 (1.7)	269.7 (1.3)
LEARNING CENTER	N	126	53	179
	ROW %	70.4 (3.0)	29.6 (3.0)	100.0 (0.0)
	COL %	11.4 (0.7)	12.3 (1.3)	11.6 (0.6)
	MEAN	288.4 (3.3)	248.6 (4.7)	276.6 (3.0)
TUTOR/FAMILY/ TELEVISION	N	55	25	80
	ROW %	68.8 (4.6)	31.2 (4.6)	100.0 (0.0)
	COL %	5.0 (0.8)	5.8 (1.0)	5.2 (0.7)
	MEAN	285.4 (4.0)	233.4 (5.3)	269.1 (3.7)
GED PRACTICE TEST	N	170	25	195
	ROW %	87.2 (3.4)	12.8 (3.4)	100.0 (0.0)
	COL %	15.3 (1.1)	5.8 (1.5)	12.7 (0.8)
	MEAN	300.1 (2.1)	253.5 (5.7)	294.1 (2.5)
GED BOOK	N	161	49	210
	ROW %	76.7 (2.4)	23.3 (2.4)	100.0 (0.0)
	COL %	14.5 (1.0)	11.4 (1.4)	13.7 (0.8)
	MEAN	287.6 (2.9)	250.6 (3.6)	279.0 (2.7)
OTHER	N	18	9	27
	ROW %	66.7 (7.4)	33.3 (7.4)	100.0 (0.0)
	COL %	1.6 (0.3)	2.1 (0.6)	1.8 (0.3)
	MEAN	303.9 (6.8)	254.3 (5.8)	287.3 (4.8)
NO STUDY	N	142	37	179
	ROW %	79.3 (2.4)	20.7 (2.4)	100.0 (0.0)
	COL %	12.8 (0.8)	8.6 (1.2)	11.6 (0.7)
	MEAN	300.7 (3.9)	247.6 (4.4)	289.7 (3.3)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	290.1 (1.1)	244.5 (1.3)	277.3 (1.2)

MISSING N = 32.

TABLE 13B
TYPE OF GED PREPARATION: DOCUMENT

		PASSERS	NONPASSERS	TOTAL
GED CLASS	N	436	232	668
	ROW %	65.3 (1.8)	34.7 (1.8)	100.0 (0.0)
	COL %	39.4 (1.1)	54.0 (2.1)	43.4 (1.0)
	MEAN	282.7 (1.6)	246.9 (2.1)	270.3 (1.6)
LEARNING CENTER	N	126	53	179
	ROW %	70.4 (3.0)	29.6 (3.0)	100.0 (0.0)
	COL %	11.4 (0.7)	12.3 (1.3)	11.6 (0.6)
	MEAN	285.9 (4.7)	251.5 (4.0)	275.7 (3.8)
TUTOR/FAMILY/ TELEVISION	N	55	25	80
	ROW %	68.8 (4.6)	31.2 (4.6)	100.0 (0.0)
	COL %	5.0 (0.8)	5.8 (1.0)	5.2 (0.7)
	MEAN	283.9 (4.1)	235.5 (6.2)	268.8 (4.0)
GED PRACTICE TEST	N	170	25	195
	ROW %	87.2 (3.4)	12.8 (3.4)	100.0 (0.0)
	COL %	15.3 (1.1)	5.8 (1.5)	12.7 (0.8)
	MEAN	296.7 (2.0)	255.7 (7.0)	291.4 (2.2)
GED BOOK	N	161	49	210
	ROW %	76.7 (2.4)	23.3 (2.4)	100.0 (0.0)
	COL %	14.5 (1.0)	11.4 (1.4)	13.7 (0.8)
	MEAN	293.0 (3.7)	257.4 (5.1)	284.7 (3.3)
OTHER	N	18	9	27
	ROW %	66.7 (7.4)	33.3 (7.4)	100.0 (0.0)
	COL %	1.6 (0.3)	2.1 (0.6)	1.8 (0.3)
	MEAN	299.9 (10.0)	253.3 (6.2)	284.4 (6.3)
NO STUDY	N	142	37	179
	ROW %	79.3 (2.4)	20.7 (2.4)	100.0 (0.0)
	COL %	12.8 (0.8)	8.6 (1.2)	11.6 (0.7)
	MEAN	298.6 (3.0)	254.4 (4.2)	289.5 (2.7)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	289.2 (1.2)	248.9 (1.5)	277.9 (1.3)

MISSING N = 32.

TABLE 13C
TYPE OF GED PREPARATION: QUANTITATIVE

		PASSERS	NONPASSERS	TOTAL
GED CLASS	N	436	232	668
	ROW %	65.3 (1.8)	34.7 (1.8)	100.0 (0.0)
	COL %	39.4 (1.1)	54.0 (2.1)	43.4 (1.0)
	MEAN	276.4 (1.6)	230.6 (2.4)	260.5 (1.9)
LEARNING CENTER	N	126	53	179
	ROW %	70.4 (3.0)	29.6 (3.0)	100.0 (0.0)
	COL %	11.4 (0.7)	12.3 (1.3)	11.6 (0.6)
	MEAN	277.1 (2.8)	228.8 (3.8)	262.8 (2.6)
TUTOR/FAMILY/ TELEVISION	N	55	25	80
	ROW %	68.8 (4.6)	31.2 (4.6)	100.0 (0.0)
	COL %	5.0 (0.8)	5.8 (1.0)	5.2 (0.7)
	MEAN	279.3 (3.3)	218.1 (4.6)	260.2 (3.7)
GED PRACTICE TEST	N	170	25	195
	ROW %	87.2 (3.4)	12.8 (3.4)	100.0 (0.0)
	COL %	15.3 (1.1)	5.8 (1.5)	12.7 (0.8)
	MEAN	293.4 (2.8)	242.9 (8.7)	287.0 (3.3)
GED BOOK	N	161	49	210
	ROW %	76.7 (2.4)	23.3 (2.4)	100.0 (0.0)
	COL %	14.5 (1.0)	11.4 (1.4)	13.7 (0.8)
	MEAN	287.2 (2.4)	233.8 (5.7)	274.7 (2.4)
OTHER	N	18	9	27
	ROW %	66.7 (7.4)	33.3 (7.4)	100.0 (0.0)
	COL %	1.6 (0.3)	2.1 (0.6)	1.8 (0.3)
	MEAN	301.7 (9.9)	230.8 (10.8)	278.1 (7.9)
NO STUDY	N	142	37	179
	ROW %	79.3 (2.4)	20.7 (2.4)	100.0 (0.0)
	COL %	12.8 (0.8)	8.6 (1.2)	11.6 (0.7)
	MEAN	297.7 (4.0)	236.9 (5.5)	285.1 (3.7)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	284.1 (1.1)	231.2 (2.0)	269.2 (1.6)

MISSING N = 32.

TABLE 14A
LABOR FORCE STATUS: PROSE

		PASSERS	NONPASSERS	TOTAL
FULL TIME	N	307	112	419
	ROW %	73.3 (1.8)	26.7 (1.8)	100.0 (0.0)
	COL %	27.2 (1.4)	25.4 (2.1)	26.7 (1.2)
	MEAN	291.8 (1.6)	237.9 (2.4)	277.4 (1.5)
PART TIME	N	202	66	268
	ROW %	75.4 (2.6)	24.6 (2.6)	100.0 (0.0)
	COL %	17.9 (1.2)	15.0 (1.5)	17.1 (0.9)
	MEAN	293.1 (2.6)	245.3 (3.5)	281.4 (2.5)
NOT WORKING	N	46	7	53
	ROW %	86.8 (6.1)	13.2 (6.1)	100.0 (0.0)
	COL %	4.1 (0.5)	1.6 (0.8)	3.4 (0.4)
	MEAN	288.6 (4.5)	248.2 (9.8)	283.3 (5.9)
UNEMPLOYED	N	328	143	471
	ROW %	69.6 (2.0)	30.4 (2.0)	100.0 (0.0)
	COL %	29.1 (1.6)	32.4 (2.1)	30.0 (1.2)
	MEAN	288.9 (1.9)	246.9 (2.4)	276.2 (2.0)
OUT OF LABOR FORCE	N	246	113	359
	ROW %	68.5 (2.5)	31.5 (2.5)	100.0 (0.0)
	COL %	21.8 (1.3)	25.6 (2.0)	22.9 (1.2)
	MEAN	287.2 (2.6)	247.5 (2.5)	274.7 (2.3)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	290.1 (1.1)	244.5 (1.3)	277.3 (1.2)

TABLE 14B
LABOR FORCE STATUS: DOCUMENT

		PASSERS	NONPASSERS	TOTAL
FULL TIME	N	307	112	419
	ROW %	73.3 (1.8)	26.7 (1.8)	100.0 (0.0)
	COL %	27.2 (1.4)	25.4 (2.1)	26.7 (1.2)
	MEAN	288.2 (1.6)	241.3 (3.2)	275.7 (1.5)
PART TIME	N	202	66	268
	ROW %	75.4 (2.6)	24.6 (2.6)	100.0 (0.0)
	COL %	17.9 (1.2)	15.0 (1.5)	17.1 (0.9)
	MEAN	294.5 (3.3)	249.8 (3.2)	283.5 (3.4)
NOT WORKING	N	46	7	53
	ROW %	86.8 (6.1)	13.2 (6.1)	100.0 (0.0)
	COL %	4.1 (0.5)	1.6 (0.8)	3.4 (0.4)
	MEAN	287.3 (6.3)	245.7 (19.6)	281.8 (6.7)
UNEMPLOYED	N	328	143	471
	ROW %	69.6 (2.0)	30.4 (2.0)	100.0 (0.0)
	COL %	29.1 (1.6)	32.4 (2.1)	30.0 (1.2)
	MEAN	288.0 (2.1)	250.1 (2.3)	276.5 (2.0)
OUT OF LABOR FORCE	N	246	113	359
	ROW %	68.5 (2.5)	31.5 (2.5)	100.0 (0.0)
	COL %	21.8 (1.3)	25.6 (2.0)	22.9 (1.2)
	MEAN	288.3 (2.6)	254.6 (4.2)	277.7 (2.2)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	289.2 (1.2)	248.9 (1.5)	277.9 (1.3)

TABLE 14C
LABOR FORCE STATUS: QUANTITATIVE

		PASSERS	NONPASSERS	TOTAL
FULL TIME	N	307	112	419
	ROW %	73.3 (1.8)	26.7 (1.8)	100.0 (0.0)
	COL %	27.2 (1.4)	25.4 (2.1)	26.7 (1.2)
	MEAN	288.1 (2.2)	228.2 (2.3)	272.1 (1.7)
PART TIME	N	202	66	268
	ROW %	75.4 (2.6)	24.6 (2.6)	100.0 (0.0)
	COL %	17.9 (1.2)	15.0 (1.5)	17.1 (0.9)
	MEAN	288.2 (2.2)	233.7 (6.1)	274.7 (3.2)
NOT WORKING	N	46	7	53
	ROW %	86.8 (6.1)	13.2 (6.1)	100.0 (0.0)
	COL %	4.1 (0.5)	1.6 (0.8)	3.4 (0.4)
	MEAN	274.1 (5.3)	224.0 (10.2)	267.4 (6.7)
UNEMPLOYED	N	328	143	471
	ROW %	69.6 (2.0)	30.4 (2.0)	100.0 (0.0)
	COL %	29.1 (1.6)	32.4 (2.1)	30.0 (1.2)
	MEAN	282.1 (1.9)	230.6 (2.4)	266.4 (2.0)
OUT OF LABOR FORCE	N	246	113	359
	ROW %	68.5 (2.5)	31.5 (2.5)	100.0 (0.0)
	COL %	21.8 (1.3)	25.6 (2.0)	22.9 (1.2)
	MEAN	280.2 (2.5)	233.9 (4.0)	265.6 (3.3)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	284.1 (1.1)	231.2 (2.0)	269.2 (1.6)

TABLE 15A
NUMBER OF WEEKS WORKED FOR PAY IN PAST 12 MONTHS: PROSE

		PASSERS	NONPASSERS	TOTAL
0 WEEKS	N	274	156	430
	ROW %	63.7 (1.9)	36.3 (1.9)	100.0 (0.0)
	COL %	24.3 (1.4)	35.4 (1.4)	27.4 (1.1)
	MEAN	284.8 (2.4)	245.5 (2.4)	270.6 (2.3)
1-13 WEEKS	N	162	66	228
	ROW %	71.1 (3.1)	28.9 (3.1)	100.0 (0.0)
	COL %	14.3 (0.9)	15.0 (1.3)	14.5 (0.7)
	MEAN	287.4 (3.1)	248.3 (3.8)	276.1 (2.5)
14-26 WEEKS	N	126	48	174
	ROW %	72.4 (2.7)	27.6 (2.7)	100.0 (0.0)
	COL %	11.2 (0.8)	10.9 (1.2)	11.1 (0.7)
	MEAN	294.3 (2.9)	251.8 (4.1)	282.6 (2.6)
27-39 WEEKS	N	117	25	142
	ROW %	82.4 (4.0)	17.6 (4.0)	100.0 (0.0)
	COL %	10.4 (0.8)	5.7 (1.4)	9.0 (0.7)
	MEAN	293.8 (3.0)	244.4 (6.3)	285.1 (3.6)
40+ WEEKS	N	343	112	455
	ROW %	75.4 (2.0)	24.6 (2.0)	100.0 (0.0)
	COL %	30.4 (1.4)	25.4 (2.1)	29.0 (1.2)
	MEAN	293.0 (1.6)	240.0 (2.6)	279.9 (2.0)
MISSING	N	107	34	141
	ROW %	75.9 (2.6)	24.1 (2.6)	100.0 (0.0)
	COL %	9.5 (0.7)	7.7 (0.9)	9.0 (0.6)
	MEAN	289.3 (4.2)	237.8 (4.4)	276.9 (3.1)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	290.1 (1.1)	244.5 (1.3)	277.3 (1.2)

TABLE 15B
NUMBER OF WEEKS WORKED FOR PAY IN PAST 12 MONTHS: DOCUMENT

0 WEEKS	N	274	156	430
	ROW %	63.7 (1.9)	36.3 (1.9)	100.0 (0.0)
	COL %	24.3 (1.4)	35.4 (1.4)	27.4 (1.1)
	MEAN	286.4 (2.8)	251.0 (2.3)	273.6 (2.3)
1-13 WEEKS	N	162	66	228
	ROW %	71.1 (3.1)	28.9 (3.1)	100.0 (0.0)
	COL %	14.3 (0.9)	15.0 (1.3)	14.5 (0.7)
	MEAN	289.6 (3.0)	252.0 (3.6)	278.8 (2.2)
14-26 WEEKS	N	126	48	174
	ROW %	72.4 (2.7)	27.6 (2.7)	100.0 (0.0)
	COL %	11.2 (0.8)	10.9 (1.2)	11.1 (0.7)
	MEAN	293.0 (4.2)	253.8 (5.0)	282.2 (4.3)
27-39 WEEKS	N	117	25	142
	ROW %	82.4 (4.0)	17.6 (4.0)	100.0 (0.0)
	COL %	10.4 (0.8)	5.7 (1.4)	9.0 (0.7)
	MEAN	294.9 (3.6)	247.1 (8.5)	286.5 (3.6)
40+ WEEKS	N	343	112	455
	ROW %	75.4 (2.0)	24.6 (2.0)	100.0 (0.0)
	COL %	30.4 (1.4)	25.4 (2.1)	29.0 (1.2)
	MEAN	288.2 (2.3)	245.2 (2.9)	277.6 (2.0)
MISSING	N	107	34	141
	ROW %	75.9 (2.6)	24.1 (2.6)	100.0 (0.0)
	COL %	9.5 (0.7)	7.7 (0.9)	9.0 (0.6)
	MEAN	288.9 (4.3)	239.8 (8.3)	277.0 (3.5)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	289.2 (1.2)	248.9 (1.5)	277.9 (1.3)

TABLE 15C
NUMBER OF WEEKS WORKED FOR PAY IN PAST 12 MONTHS: QUANTITATIVE

		PASSERS	NONPASSERS	TOTAL
0 WEEKS	N	274	156	430
	ROW %	63.7 (1.9)	36.3 (1.9)	100.0 (0.0)
	COL %	24.3 (1.4)	35.4 (1.4)	27.4 (1.1)
	MEAN	276.6 (2.4)	228.7 (2.9)	259.2 (2.4)
1-13 WEEKS	N	162	66	228
	ROW %	71.1 (3.1)	28.9 (3.1)	100.0 (0.0)
	COL %	14.3 (0.9)	15.0 (1.3)	14.5 (0.7)
	MEAN	280.4 (3.7)	233.6 (3.7)	266.9 (2.8)
14-26WEEKS	N	126	48	174
	ROW %	72.4 (2.7)	27.6 (2.7)	100.0 (0.0)
	COL %	11.2 (0.8)	10.9 (1.2)	11.1 (0.7)
	MEAN	289.9 (3.4)	236.4 (5.0)	275.1 (4.0)
27-39 WEEKS	N	117	25	142
	ROW %	82.4 (4.0)	17.6 (4.0)	100.0 (0.0)
	COL %	10.4 (0.8)	5.7 (1.4)	9.0 (0.7)
	MEAN	287.4 (3.7)	232.7 (6.6)	277.7 (4.1)
40+ WEEKS	N	343	112	455
	ROW %	75.4 (2.0)	24.6 (2.0)	100.0 (0.0)
	COL %	30.4 (1.4)	25.4 (2.1)	29.0 (1.2)
	MEAN	289.3 (2.1)	232.8 (4.0)	275.4 (2.6)
MISSING	N	107	34	141
	ROW %	75.9 (2.6)	24.1 (2.6)	100.0 (0.0)
	COL %	9.5 (0.7)	7.7 (0.9)	9.0 (0.6)
	MEAN	281.6 (4.2)	224.1 (5.3)	267.8 (3.3)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	284.1 (1.1)	231.2 (2.0)	269.2 (1.6)

TABLE 16A
NUMBER OF YEARS EMPLOYED FULL TIME: PROSE

		PASSERS	NONPASSERS	TOTAL
NONE	N	325	156	481
	ROW %	67.6 (1.9)	32.4 (1.9)	100.0 (0.0)
	COL %	28.8 (1.4)	35.4 (2.3)	30.6 (1.4)
	MEAN	285.2 (2.1)	243.5 (2.3)	271.7 (1.9)
< 1 YEAR	N	166	74	240
	ROW %	69.2 (3.7)	30.8 (3.7)	100.0 (0.0)
	COL %	14.7 (1.0)	16.8 (2.0)	15.3 (0.9)
	MEAN	283.5 (3.2)	238.6 (3.9)	269.6 (3.7)
1-3 YEARS	N	223	70	293
	ROW %	76.1 (2.9)	23.9 (2.9)	100.0 (0.0)
	COL %	19.8 (1.2)	15.9 (2.0)	18.7 (1.0)
	MEAN	293.7 (2.3)	246.4 (2.4)	282.4 (2.4)
4-10 YEARS	N	228	76	304
	ROW %	75.0 (2.4)	25.0 (2.4)	100.0 (0.0)
	COL %	20.2 (1.1)	17.2 (1.6)	19.4 (1.0)
	MEAN	297.0 (2.3)	250.6 (4.4)	285.4 (2.4)
11+ YEARS	N	164	56	220
	ROW %	74.5 (3.4)	25.5 (3.4)	100.0 (0.0)
	COL %	14.5 (1.3)	12.7 (2.0)	14.0 (1.0)
	MEAN	291.9 (2.2)	247.3 (3.8)	280.6 (2.2)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	290.1 (1.1)	244.5 (1.3)	277.3 (1.2)

MISSING N = 32.

TABLE 16B
NUMBER OF YEARS EMPLOYED FULL TIME: DOCUMENT

		PASSERS	NONPASSERS	TOTAL
NONE	N	325	156	481
	ROW %	67.6 (1.9)	32.4 (1.9)	100.0 (0.0)
	COL %	28.8 (1.4)	35.4 (2.3)	30.6 (1.4)
	MEAN	288.3 (2.4)	250.2 (2.5)	276.0 (2.0)
< 1 YEAR	N	166	74	240
	ROW %	69.2 (3.7)	30.8 (3.7)	100.0 (0.0)
	COL %	14.7 (1.0)	16.8 (2.0)	15.3 (0.9)
	MEAN	284.7 (3.4)	240.6 (5.8)	271.1 (4.4)
1-3 YEARS	N	223	70	293
	ROW %	76.1 (2.9)	23.9 (2.9)	100.0 (0.0)
	COL %	19.8 (1.2)	15.9 (2.0)	18.7 (1.0)
	MEAN	293.0 (2.7)	249.7 (3.0)	282.7 (2.7)
4-10 YEARS	N	228	76	304
	ROW %	75.0 (2.4)	25.0 (2.4)	100.0 (0.0)
	COL %	20.2 (1.1)	17.2 (1.6)	19.4 (1.0)
	MEAN	293.8 (2.9)	253.2 (4.4)	283.6 (2.7)
11+ YEARS	N	164	56	220
	ROW %	74.5 (3.4)	25.5 (3.4)	100.0 (0.0)
	COL %	14.5 (1.3)	12.7 (2.0)	14.0 (1.0)
	MEAN	284.2 (3.2)	250.8 (4.3)	275.7 (2.5)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	289.2 (1.2)	248.9 (1.5)	277.9 (1.3)

MISSING N = 32.

TABLE 16C
NUMBER OF YEARS EMPLOYED FULL TIME: QUANTITATIVE

		PASSERS	NONPASSERS	TOTAL
NONE	N	325	156	481
	ROW %	67.6 (1.9)	32.4 (1.9)	100.0 (0.0)
	COL %	28.8 (1.4)	35.4 (2.3)	30.6 (1.4)
	MEAN	279.8 (1.7)	231.0 (3.3)	264.0 (1.9)
< 1 YEAR	N	166	74	240
	ROW %	69.2 (3.7)	30.8 (3.7)	100.0 (0.0)
	COL %	14.7 (1.0)	16.8 (2.0)	15.3 (0.9)
	MEAN	280.2 (2.9)	221.6 (3.8)	262.2 (3.7)
1-3 YEARS	N	223	70	293
	ROW %	76.1 (2.9)	23.9 (2.9)	100.0 (0.0)
	COL %	19.8 (1.2)	15.9 (2.0)	18.7 (1.0)
	MEAN	288.6 (3.1)	229.7 (4.1)	274.6 (3.2)
4-10 YEARS	N	228	76	304
	ROW %	75.0 (2.4)	25.0 (2.4)	100.0 (0.0)
	COL %	20.2 (1.1)	17.2 (1.6)	19.4 (1.0)
	MEAN	285.6 (2.3)	233.5 (3.3)	272.5 (2.0)
11+ YEARS	N	164	56	220
	ROW %	74.5 (3.4)	25.5 (3.4)	100.0 (0.0)
	COL %	14.5 (1.3)	12.7 (2.0)	14.0 (1.0)
	MEAN	289.9 (2.9)	246.1 (5.4)	278.7 (2.6)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	284.1 (1.1)	231.2 (2.0)	269.2 (1.6)

MISSING N = 32.

TABLE 17A
WEEKLY WAGE FOR PAST 12 MONTHS: PROSE

		PASSERS	NONPASSERS	TOTAL
$0-200	N	451	153	604
	ROW %	74.7 (2.2)	25.3 (2.2)	100.0 (0.0)
	COL %	39.9 (1.5)	34.7 (1.8)	38.5 (1.0)
	MEAN	291.4 (1.8)	245.7 (2.5)	279.8 (2.2)
$200-500	N	307	87	394
	ROW %	77.9 (1.8)	22.1 (1.8)	100.0 (0.0)
	COL %	27.2 (1.3)	19.7 (1.5)	25.1 (0.9)
	MEAN	293.3 (2.2)	242.8 (2.6)	282.1 (1.8)
$500+	N	35	10	45
	ROW %	77.8 (5.7)	22.2 (5.7)	100.0 (0.0)
	COL %	3.1 (0.5)	2.3 (0.7)	2.9 (0.4)
	MEAN	295.5 (7.2)	234.6 (10.5)	282.0 (8.1)
MISSING	N	336	191	527
	ROW %	63.8 (1.7)	36.2 (1.7)	100.0 (0.0)
	COL %	29.8 (1.4)	43.3 (1.6)	33.6 (1.1)
	MEAN	284.8 (2.2)	244.9 (2.5)	270.4 (2.0)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	290.1 (1.1)	244.5 (1.3)	277.3 (1.2)

TABLE 17B
WEEKLY WAGE FOR PAST 12 MONTHS: DOCUMENT

		PASSERS	NONPASSERS	TOTAL
$0-200	N	451	153	604
	ROW %	74.7 (2.2)	25.3 (2.2)	100.0 (0.0)
	COL %	39.9 (1.5)	34.7 (1.8)	38.5 (1.0)
	MEAN	291.5 (1.9)	249.2 (2.5)	280.8 (2.2)
$200-500	N	307	87	394
	ROW %	77.9 (1.8)	22.1 (1.8)	100.0 (0.0)
	COL %	27.2 (1.3)	19.7 (1.5)	25.1 (0.9)
	MEAN	289.1 (2.1)	247.5 (3.5)	279.9 (1.7)
$500+	N	35	10	45
	ROW %	77.8 (5.7)	22.2 (5.7)	100.0 (0.0)
	COL %	3.1 (0.5)	2.3 (0.7)	2.9 (0.4)
	MEAN	292.7 (6.4)	237.2 (15.7)	280.4 (7.7)
MISSING	N	336	191	527
	ROW %	63.8 (1.7)	36.2 (1.7)	100.0 (0.0)
	COL %	29.8 (1.4)	43.3 (1.6)	33.6 (1.1)
	MEAN	286.0 (2.4)	249.9 (2.9)	272.9 (1.9)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	289.2 (1.2)	248.9 (1.5)	277.9 (1.3)

TABLE 17C
WEEKLY WAGE FOR PAST 12 MONTHS: QUANTITATIVE

		PASSERS	NONPASSERS	TOTAL
$0-200	N	451	153	604
	ROW %	74.7 (2.2)	25.3 (2.2)	100.0 (0.0)
	COL %	39.9 (1.5)	34.7 (1.8)	38.5 (1.0)
	MEAN	285.2 (1.6)	231.4 (4.0)	271.5 (2.6)
$200-500	N	307	87	394
	ROW %	77.9 (1.8)	22.1 (1.8)	100.0 (0.0)
	COL %	27.2 (1.3)	19.7 (1.5)	25.1 (0.9)
	MEAN	288.7 (2.3)	234.1 (3.2)	276.6 (2.0)
$500+	N	35	10	45
	ROW %	77.8 (5.7)	22.2 (5.7)	100.0 (0.0)
	COL %	3.1 (0.5)	2.3 (0.7)	2.9 (0.4)
	MEAN	296.0 (8.4)	240.4 (17.4)	283.6 (9.8)
MISSING	N	336	191	527
	ROW %	63.8 (1.7)	36.2 (1.7)	100.0 (0.0)
	COL %	29.8 (1.4)	43.3 (1.6)	33.6 (1.1)
	MEAN	277.1 (2.1)	229.3 (3.1)	259.8 (2.1)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	284.1 (1.1)	231.2 (2.0)	269.2 (1.6)

TABLE 18A
ANNUAL HOUSEHOLD INCOME: PROSE

		PASSERS	NONPASSERS	TOTAL
<$9,999	N	257	132	389
	ROW %	66.1 (2.4)	33.9 (2.4)	100.0 (0.0)
	COL %	22.8 (1.4)	30.1 (2.2)	24.9 (1.0)
	MEAN	290.4 (2.3)	247.8 (1.9)	275.9 (1.8)
$10-19,999	N	242	81	323
	ROW %	74.9 (1.9)	25.1 (1.9)	100.0 (0.0)
	COL %	21.5 (1.2)	18.5 (1.6)	20.6 (0.9)
	MEAN	292.0 (1.9)	248.4 (3.4)	281.1 (1.7)
$20-39,999	N	256	74	330
	ROW %	77.6 (2.0)	22.4 (2.0)	100.0 (0.0)
	COL %	22.7 (1.3)	16.9 (1.5)	21.1 (1.0)
	MEAN	295.2 (2.3)	242.9 (3.3)	283.5 (2.2)
$40,000+	N	227	48	275
	ROW %	82.5 (2.0)	17.5 (2.0)	100.0 (0.0)
	COL %	20.2 (1.3)	10.9 (1.2)	17.6 (1.1)
	MEAN	289.2 (2.3)	245.1 (4.1)	281.5 (2.2)
DON'T KNOW	N	131	86	217
	ROW %	60.4 (3.9)	39.6 (3.9)	100.0 (0.0)
	COL %	11.6 (0.8)	19.6 (1.9)	13.9 (0.7)
	MEAN	277.4 (3.6)	237.9 (2.2)	261.7 (2.6)
NO INCOME	N	10	13	23
	ROW %	43.5 (7.2)	56.5 (7.2)	100.0 (0.0)
	COL %	0.9 (0.2)	3.0 (0.8)	1.5 (0.3)
	MEAN	273.1 (22.8)	237.7 (11.1)	253.1 (13.2)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	290.1 (1.1)	244.5 (1.3)	277.3 (1.2)

MISSING AND REFUSED N = 13.

TABLE 18B
ANNUAL HOUSEHOLD INCOME: DOCUMENT

		PASSERS	NONPASSERS	TOTAL
<$9,999	N	257	132	389
	ROW %	66.1 (2.4)	33.9 (2.4)	100.0 (0.0)
	COL %	22.8 (1.4)	30.1 (2.2)	24.9 (1.0)
	MEAN	289.4 (2.5)	251.3 (2.6)	276.5 (2.1)
$10-19,999	N	242	81	323
	ROW %	74.9 (1.9)	25.1 (1.9)	100.0 (0.0)
	COL %	21.5 (1.2)	18.5 (1.6)	20.6 (0.9)
	MEAN	291.6 (2.4)	253.2 (4.2)	281.9 (1.8)
$20-39,999	N	256	74	330
	ROW %	77.6 (2.0)	22.4 (2.0)	100.0 (0.0)
	COL %	22.7 (1.3)	16.9 (1.5)	21.1 (1.0)
	MEAN	290.5 (2.7)	244.8 (3.6)	280.2 (2.3)
$40,000+	N	227	48	275
	ROW %	82.5 (2.0)	17.5 (2.0)	100.0 (0.0)
	COL %	20.2 (1.3)	10.9 (1.2)	17.6 (1.1)
	MEAN	290.3 (2.6)	253.1 (5.3)	283.8 (2.6)
DON'T KNOW	N	131	86	217
	ROW %	60.4 (3.9)	39.6 (3.9)	100.0 (0.0)
	COL %	11.6 (0.8)	19.6 (1.9)	13.9 (0.7)
	MEAN	281.1 (2.6)	243.5 (4.4)	266.2 (2.3)
NO INCOME	N	10	13	23
	ROW %	43.5 (7.2)	56.5 (7.2)	100.0 (0.0)
	COL %	0.9 (0.2)	3.0 (0.8)	1.5 (0.3)
	MEAN	276.5 (15.0)	244.2 (16.5)	258.2 (10.3)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	289.2 (1.2)	248.9 (1.5)	277.9 (1.3)

MISSING AND REFUSED N = 13.

TABLE 18C
ANNUAL HOUSEHOLD INCOME: QUANTITATIVE

		PASSERS	NONPASSERS	TOTAL
<$9,999	N	257	132	389
	ROW %	66.1 (2.4)	33.9 (2.4)	100.0 (0.0)
	COL %	22.8 (1.4)	30.1 (2.2)	24.9 (1.0)
	MEAN	281.1 (2.6)	229.4 (2.9)	263.6 (2.5)
$10-19,999	N	242	81	323
	ROW %	74.9 (1.9)	25.1 (1.9)	100.0 (0.0)
	COL %	21.5 (1.2)	18.5 (1.6)	20.6 (0.9)
	MEAN	286.1 (2.3)	237.3 (3.6)	273.9 (2.0)
$20-39,999	N	256	74	330
	ROW %	77.6 (2.0)	22.4 (2.0)	100.0 (0.0)
	COL %	22.7 (1.3)	16.9 (1.5)	21.1 (1.0)
	MEAN	290.1 (2.5)	240.2 (5.1)	278.9 (2.5)
$40,000+	N	227	48	275
	ROW %	82.5 (2.0)	17.5 (2.0)	100.0 (0.0)
	COL %	20.2 (1.3)	10.9 (1.2)	17.6 (1.1)
	MEAN	287.4 (2.5)	238.4 (5.2)	278.9 (2.5)
DON'T KNOW	N	131	86	217
	ROW %	60.4 (3.9)	39.6 (3.9)	100.0 (0.0)
	COL %	11.6 (0.8)	19.6 (1.9)	13.9 (0.7)
	MEAN	267.7 (3.6)	220.2 (4.1)	248.9 (3.0)
NO INCOME	N	10	13	23
	ROW %	43.5 (7.2)	56.5 (7.2)	100.0 (0.0)
	COL %	0.9 (0.2)	3.0 (0.8)	1.5 (0.3)
	MEAN	283.3 (19.7)	207.5 (13.9)	240.4 (10.6)
TOTAL	N	1129	441	1570
	ROW %	71.9 (1.2)	28.1 (1.2)	100.0 (0.0)
	COL %	100.0 (0.0)	100.0 (0.0)	100.0 (0.0)
	MEAN	284.1 (1.1)	231.2 (2.0)	269.2 (1.6)

MISSING AND REFUSED N = 13.

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